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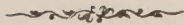
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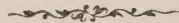


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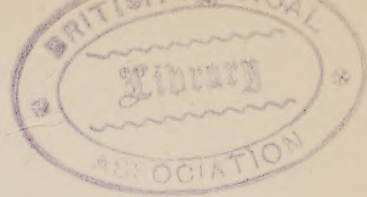
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CONTENTS.

ORIGINAL CONTRIBUTIONS.

	PAGE
Alcohol in relation to Public Health	24
Alcohol and the Supreme Faculty	119
Alcohol in Cold Climates	165
Alcohol Useless in Surgery	173
Dr. Alfred Carpenter on Alcohol	157
Dr. Bennet on Nutrition in Health and Disease	76
Dr. Duckworth on the Medical injunction of Stimulants in Disease and in Health	61
Intemperance and Lunacy	20
Non-Alcoholic Treatment of Typhus Fever	121
Non-Alcoholic Treatment of Post-partum Hæmorrhage	170
The British Medical Association at Manchester	15
The Habitual Drunkards' Bill, and Kindred Methods in America and the Colonies	i
The Medical Aspects of Total Abstinence	7c
The Medical Administration of Alcohol	109

MISCELLANEOUS COMMUNICATIONS.

Alcohol in Workhouses	26
Alcoholic Drinks : as Diet, as Medicines, and as Poisons	186
Asylum for Dipsomaniacs and Inebriates	54
Breakfast to Members of the British Medical Association	44
Dr. Beverley on Intoxicants	145
Intemperance as a Cause of Idiocy	53
Medical Difficulties regarding Total Abstinence	124
Medical Evidence before the Lords' Committee on Intemperance	91
Medical Speeches at the Royal Albert Hall	27
Mr. Sibley on Alcohol in Health and Disease	51
On Intemperance in Women	148
On the Diagnosis and Treatment of Acute Diseases induced by Alcohol	137
On the Medical Injunction of Stimulants in Disease and in Health	82
Physiological and Medical Effects of Alcohol	101
Taquet on Heredity in Alcoholism	151
The British Medical Temperance Association	201
The Hunterian Society—Alcohol in Health and Disease	174
The "Lancet" on the Use of Alcohol	142
The Treatment of Habitual Drunkards	36
The Use of Alcohol in the Treatment of Disease	132

NOTES AND EXTRACTS.

	PAGE
A Canadian Medical Testimony	207
A Gigantic Innkeeper	154
A Railway Manager abstaining in spite of the Doctor	105
Abuse of Hospitals	107
Alcoholic Amaurosis	206
Alcoholism and Medical Students	59
Alcoholism in France	107
Alcoholic Drinks in France	156
An Indian Medical Declaration	106
An Insane Remedy for an Insane Patient	206
Capsicum in Alcoholism	106
Chlorodyne	207
Control of Dipsomaniacs	207
Dipsomania	154
Doctors and Patients	58
Drink and Insanity	56
Drink Craving	59
Effects of Alcohol on Europeans in India	57
Effects of Alcoholism on Mental Diseases	104
Elimination of Alcohol from the Body	105
Excretion of Alcohol by the Kidneys and Lungs	155
Gastritis from Ether Drinking	58
Intoxicants in the Workhouse	154
Legislative Control of Habitual Drunkards	108
London Temperance Hospital	208
Medical Opinion concerning Alcohol	57
Medical Substitutes for Alcohol	105
Sanitary Reform and Temperance	60
Test for Alcohol	154
The American Medical Association and Total Abstinence	57
The Immediate Cure for Drunkenness	107
The Medical Profession and Temperance	206
The Treatment of Habitual Drunkards	104
Tolerance of Chloral in Delirium Tremens	104
Treatment of Drunkenness	56
Workhouse Stimulation	206



THE
MEDICAL TEMPERANCE JOURNAL.

October, 1877.

Original Contributions.

THE HABITUAL DRUNKARDS' BILL, AND KINDRED
METHODS IN AMERICA AND THE COLONIES.

THE Habitual Drunkards' Bill has been withdrawn, without even the solatium of discussion. Considering the muddle into which legislative matters had fallen this is not much to be wondered at. Considering the genesis and composition of the present Parliament, and the strong alcoholic flavour it must needs retain from its foster-parents and promoters, hardly any other result was to be looked for. But, as in the case of the Irish Sunday Closing Bill, the final triumph is only a question of time; nor do we apprehend that any long time needs to elapse before this humane measure be passed into law.

The Bill was introduced into the House of Commons by Dr. Cameron, one of the members for Glasgow, and was framed at the instance of the Society for Promoting Legislation for the Control and Cure of Habitual Drunkards. The Society itself owes its existence to the felt necessity for legal and compulsory powers, in order to command the requisite conditions of care and control, without which no satisfactory result could be looked for. Its main object, accordingly, is to obtain the needed legislation, and to induce a humane public, and especially the legal and medical professions, to co-operate for that end. The need is urgent and wide-spread. The dipsomaniac is to be found in all sections of society, and very few are the individuals who are not cognisant of such cases, if not within their own circles, at least in their respective neighbourhoods.

In seeking for a fitting basis on which to organise and agitate, the friends of this movement found all they could desire already laid to their hands in the Blue-book of 1872, containing the

Report of the Committee on Habitual Drunkards, and the entire body of evidence thereon; in the Bill of the late Mr. Dalrymple, founded on that evidence; in the various legislative Acts of America and Australia; and in the various public discussions connected with the movement. Add to this an extensive correspondence with the heads of inebriate asylums in America, and with numerous other persons, professional or official, specially conversant with the case, and we can readily see how well furnished the Committee of the new Society must have been to determine the requisite instructions for the drafting of the Bill. After it was drafted, it was carefully reconsidered by them, and materially revised; so that it may be reasonably presumed to be as nearly as possible a measure fairly meeting the difficult and delicate case, and not likely to be much modified in its passage into law.

Its provisions are ranged under eight groups. The first is preliminary and formal, defining the terms "Retreat" and "Habitual Drunkard." The second relates to Retreats, regulating their formation and management. Power is given to the local authority to grant licenses for terms not exceeding twelve months, to keep a Retreat, with power to revoke or renew it, and to transfer the license. The conduct of the institution, formalities of admission, and other material matters, are provided for in Sections 10 to 12 of the Act, which, presenting as they do the pith and marrow of the measure, we will here introduce.

Section 10 provides that "Any habitual drunkard desirous of being admitted into a retreat, may make application in writing to the proprietor of a retreat for admission into such retreat, and such application shall be in the form No. 3 in the second schedule hereto, and shall state the time during which such applicant undertakes to remain in such retreat. The signature of the applicant to such request for admission to a retreat, shall be attested by a Justice of the Peace, or by a Commissioner to administer oaths in the Supreme Court, and such Justice or Commissioner shall explain to the applicant the effect of his application for admission into a retreat and his reception therein, and shall state in writing, and as a part of such attestation, that the applicant understood the effect of his application for admission and his reception into the retreat.

"Such applicant, after his admission and reception into such retreat, unless discharged as hereinafter provided, shall not be entitled to leave such retreat till the expiration of the term mentioned in his application, and such applicant may be detained therein till the expiration of such term, provided that such term shall not exceed the period of *twelve calendar months*."

Section 11 provides that "Upon the application of the parent,

husband, wife, relative, or guardian of any habitual drunkard, a justice may summon such person to appear on a day named, such day not to be less than *two* clear days after the service of the summons, at the petty sessions, where such justice has jurisdiction, to show cause why such person should not be placed in a retreat under this Act."

Section 12 provides that "At the hearing of such summons, whether the person summoned appears or not, upon proof of the service of the summons, and that the person summoned is an habitual drunkard within the meaning of this Act, the justices in petty sessions assembled may make an order in the Form No. 4 in the second schedule hereto, or to the like effect, authorising the apprehension of such person, his conveyance to a retreat under this Act to be named in such order, his delivery to the proprietor thereof, and his reception, detention, and curative treatment therein for any term not less than *one calendar month*, and not exceeding *twelve calendar months*. In default of such proof, such summons shall be dismissed with costs, as against the applicant or applicants. The summons, whether heard by the justices without a jury under this section, or with a jury under the next section, shall, if the person summoned so require, or in the discretion of the justices may, be heard in private."

Persons feeling aggrieved when dealt with under any of these powers may apply for, and obtain, a hearing, with a jury of twelve; and the power to discharge from a retreat is vested in one justice, where the inmate concerned is there on his own application; in other cases it is vested in two.

The third group of provisions relates to "Inebriate Reformatories." County or borough authorities, and borough councils, are empowered to provide an Inebriate Reformatory, subject to inspection, and to take land for that purpose, under due compulsory powers, and to levy rates for this and all other expenses connected with the institution. Power is also given to adjoining local authorities to erect joint inebriate reformatories, whose rules must be approved by the Secretary of State, and not altered without his consent. The most important provisions under this group are the two following:—

Section 29 provides that "Any habitual drunkard within the meaning of this Act, if convicted at any time by any court of summary jurisdiction of being drunk, or drunk and incapable, or drunk and disorderly, shall be liable to be committed to, and detained, in an inebriate reformatory for any term not less than *one calendar month*, and not more than *twelve calendar months*, either at the expiration of any sentence to which he shall have previously been sentenced or immediately on conviction."

And Section 30 provides that "Any person who shall by any

court of summary jurisdiction be convicted of being drunk and incapable or drunk and disorderly *three* times within *three* consecutive calendar months may, in addition to any fine or imprisonment, be ordered to find sureties for his good behaviour during any period not exceeding *twelve* calendar months from the date of his third conviction, or from the date of the expiration of such imprisonment as last aforesaid; and, in default of his finding such sureties, he shall, in the absence of satisfactory evidence to the contrary, be deemed to be an habitual drunkard within the meaning of this Act, and may be committed to, and detained in, an inebriate reformatory for any term not less than *one* calendar month, and not more than *twelve* calendar months from such conviction or expiration of imprisonment as aforesaid."

The fourth group of provisions is headed, "Inspection and Visitation of Retreats and Inebriate Reformatories." It empowers the appointment of "Inspectors of Prisons," with an Assistant-Inspector, to inspect Retreats and Inebriate Reformatories from time to time, and at least once in every year; and it provides that at Michaelmas in every year the local authority shall appoint three or more justices, and at least one medical practitioner, to inspect such institutions within the bounds; these visitors solely pledging themselves, under a form given, to due secrecy and discretion in the discharge of their duties. They are to be furnished with a clerk, who is to make a similar declaration; and three at least of their number, including a medical visitor, are to visit the institution at least six times annually. The visitors have power to discharge an inmate after two distinct visits by the same visitors, if in their opinion the patient is detained without sufficient cause but such visitors must previously examine the medical attendant on oath—from all which it will be seen that due care is taken to avoid encroachment on the liberty of the subject.

The four groups of provisions that remain are of minor importance, and call for no detail. They relate respectively to Leave of Absence from the retreat or inebriate reformatory, to the expenses of the Act, to Offences, and to miscellaneous provisions and schedules.

Now that this carefully-conceived and excellent measure is shelved for the present season, it behoves all friends of the much-needed and benevolent movement to make known its character and objects, and prepare themselves for a renewal of effort to get it passed into law, realising how many unfortunates on every hand are only too ripe for being placed under its beneficent operation.

In connection with this movement, and most opportunely for its promotion, we commend to our readers the able and elaborate

paper read by Mr. Stephen S. Alford, F.R.C.S., and republished as a pamphlet, under the title of "*Dipsomania, its Prevalence, Causes and Treatment.*" In this long and important paper, which covers the entire ground, the writer sets himself to fill up the following programme:—

"To bring forward facts showing the extent of the evil of drink craving; the etiology or cause of its existence; the means that have been adopted both by the legislature and by private efforts to meet this evil; the degree of success attained; and how far they have failed; and lastly to adduce suggestions for further action." Mr. Alford justly points out the misconceptions that prevail in regard to that terrible extreme of intemperance, many simply regarding it as a vice without inquiring how far it may be a disease, goading on to insanity, and fraught with deadly danger under its imperious promptings, which not unfrequently lead to murder or suicide.

After adding a variety of facts illustrative of the dipsomaniac craving, Mr. Alford proceeds to deal with the question of Cause. The morbid appetite is, of course, a thing that is in general acquired, but temperament, heredity, and circumstances are also important factors in the result. Many can take stimulants freely, without being overmastered by them; others, of a sensitive, nervous temperament, can bear the smallest indulgence. "This sensitive condition," says he, "is often a legacy from an intemperate parent. These excitable lively characters suffer much from loss of nerve power, accompanied by feelings of exhaustion, sinking and depression. To sustain action and deaden these distressing feelings, the true remedy would be to take rest and repose, instead of which stimulants are too often resorted to." The result is momentary relief followed by greater exhaustion, which of course demands a fresh dose, to be followed by aggravated consequences; and so the vicious circle runs its fatal round. Accordingly, vice though it be, it often passes into the category of very formidable disease; disease intensified by heredity, and aggravated and prolonged by circumstances of social entanglement and over-tasked brains. In this connection the physiological effects of alcohol on the human system are fully traced, with frequent references to the important contributions to temperance physiology made by Dr. Richardson; after which, the writer shows how stealthily moderate indulgence runs into excess, and traces the various predisposing causes, whether inherited or factitiously acquired and maintained, that lead to dipsomania.

Passing from the evil to the remedy, Mr. Alford first takes account of the private inebriate houses already in existence in these kingdoms. He names as the only ones known to him five

male and five female establishments of this kind, and which are scattered over various localities in England and in Scotland. They have all been very beneficent in their operation, but, for want of the requisite compulsory powers of detention, their success has necessarily been circumscribed. The absolute necessity of compulsory detention in order to anything that deserves the name of cure is strongly insisted on, and indeed may now be set down as an axiomatic principle in the movement. Total abstinence is clearly another. With these are conjoined various suggestions as to seclusion from old associations, fair occupation of body and mind, some scope for voluntary action and encouragement to rational self-control, and other auxiliary influences that constitute a valuable envioning element in the process of cure.

Directing his view across the Atlantic, and to our own colonies, Mr. Alford first adverts to the eleven inebriate establishments in America, sanctioned by law, some of which have been in existence for twenty years. The proportion of cures, as stated in reports lately received, averages from fifty to sixty per cent., and the average term of treatment varies from six to twelve months, and sometimes longer. Strict obedience is enforced, with as little of the appearance of coercion as possible. Having the support of law, this is an easier matter. Activity is not only conducive to cure, but aids in making the institutions remunerative, and particularly in enabling the poor in them to do much to sustain themselves. "Employers of labour," says Mr. Alford, "have told me that their drunken workmen are frequently the most skilful, and best workers when sober, so that they (the employers) endure their irregularities on that account. We need not fear but that inebriate establishments under good management will be self-supporting after being fairly started." As the middle and upper classes can pay for themselves, there need be little fear on the financial question, especially considering the saving there would be in criminal prosecutions and convict establishments, the proportion of which caused by drunkenness alone has been estimated at £9,000,000 annually; not to mention the other larger items of alcoholic waste, all of it preventable, which almost exceeds calculation.

In such a paper the recent adverse deliverance of Dr. Bucknill, in the *Contemporary Review*, could hardly be overlooked—a deliverance based on the principle that drunkenness is invariably a vice, pure and simple. Mr. Alford accordingly quotes and comments on that article freely. He says:—"From information I have received direct from America, with reference to his letter (in *Times* of Nov. 3, 1876), it appears that he has founded his remarks on the failure of a few institutions imperfectly managed,

and that he did not visit the more successful establishments, as in King's County. The American Superintendents state that Dr. Bucknill's remarks specially refer to the New York establishment, on the failure of which he so much dwells, and which was opened as a political and sham financial scheme, and was never worked in good faith. In letters received this year they indignantly deny his statements." He then proceeds to cite his transatlantic witnesses, who give their rebutting testimony with no bated breath.

Dr. Day, of the Inebriate Washingtonian Home, Boston, declares Dr. Bucknill's statements to be "founded on the most shallow and limited information: it seems that he visited only those asylums that have failed, and I claim that none have failed that have been properly conducted." Dr. Day pertinently asks: "Why did he not visit some of those asylums that have succeeded, such as the one over which I preside, which has been in operation nearly twenty years? I could have shown scores of reformed drunkards who have been perfectly sober from five to twenty years." Dr. Harris, of the Franklin Home, Philadelphia, testifies to "the success of all Inebriate Homes that have been honestly and properly conducted," and says, "I am a little surprised Dr. Bucknill has never mentioned our Inebriate Homes as distinguished from asylums." Dr. Crowther, of Binghampton Asylum, testifies to the strong sentiment of the medical profession in favour of the system, and affirms that his own establishment is often crowded, and that other asylums are coming into operation. He says:—"Our success, under disadvantages of a peculiar character, is without question. We have inquiries which show that sixty-two per cent. of all our patients who were here five years ago and more, are now sober, and have good expectation of continuing so: of this number we have many reasons for believing over forty-five per cent. will be permanently cured." That establishment has an average of 120 patients in winter, and seventy to eighty in summer. Dr. Crowther points out that critics strangely forget that the system is as yet in its infancy, and is fighting its way alone; and that whereas the reformed glide quietly back into home life, the failures parade themselves at street corners. He mentions an inquiry, instituted in the previous year, into the history of patients that had been at the institution five years previously, and that "the answers returned revealed the startling fact that over sixty per cent. who were under treatment here for four or five months were sober and continued reformed men." In many cases, he adds, "the cure has been of much longer duration." The Rev. J. Willett, Superintendent of the Inebriates' Home, King's County, Fort Hamilton, New York, says:—"It is somewhat remarkable that Dr. Bucknill

did not favour the Inebriates' Home for King's County " with a visit during his sojourn in America, for it is only six miles from New York, and, besides, has more patients than "any kindred institution on this continent." In direct contrast to Dr. Bucknill's charges, he declares that the New York State Legislature is constantly encouraging them, recognising the good that is being done. Referring to a certain grant at the very time when the Doctor was in America, Mr Willett asks, "Where was Dr. Bucknill with his marvellous discoveries?" He justly observes, "There were no models to copy from." It was easy to deal with a workhouse, prison, or asylum, but very different was a new affair of this kind, whose inmates were "many of them highly educated, and possessing great intelligence: embracing statesmen, authors, editors, lawyers, physicians, civil engineers, artists, clergymen, &c." Mr. Willett gives much valuable information and suggestion on various aspects of the system.

It is gratifying to learn that in America the law has only to be enforced in a very few cases; no fewer than 94 per cent. voluntarily submitting to enter inebriate establishments, 2 per cent. by friends, and only 4 per cent. compulsorily committed.

Mr. Alford states that intemperance is changing its character, there being less of delirium tremens than thirty years ago, and more of dipsomania, under the various forms of alcoholism which tend to ripen to deadly issues. He sums up the principle and sentiment of his valuable pamphlet in these terms:—

"To treat a dipsomaniac in all or most cases as vicious, is, in my opinion, wrong—to consider him as affected by a disease, which is fairly within the region of medical treatment is, I affirm, the best and surest method of curing him."

At the late annual meeting of the British Medical Association held in Manchester, the subject was repeatedly brought up. On Wednesday, 8th August, able and interesting papers were read in the Psychology Section by Mr. G. W. Mould, of Cheadle, and Dr. Norman S. Kerr, of London, which gave rise to a specially interesting, spirited, and practical discussion. Both urged compulsory detention of inebriates, under due regulation. Mr. Mould stated that his experience in charge of a public hospital had been such as to impress him with the conviction that a brief and comprehensive Act of that kind, suited to all classes, was an imperative necessity; and he closed his paper by submitting a motion to that effect. Dr. Kerr's paper was forcible, fervid, and eloquent. Instead of 1,000, as reckoned by a brother-practitioner, he expressed the conviction, from observation and inquiry, that 30,000 would be nearer the truth as the number of existing dipsomaniacs. Mr. Mould's motion was as follows:—"That it is the opinion of the Psychological Section of the British Medical

Association that legislative action is imperatively necessary for the treatment of habitual drunkards, and the object would be best effected by the establishment of distinct institutions for their treatment." In addition to this, Dr. Parker, of Liverpool Borough Gaol, moved, "That it is the opinion of this meeting that the establishment of reformatory institutions for the treatment of drunken offenders for lengthened periods ought to be urged upon the Government." The former motion was carried unanimously, and the latter by "a very large majority."

The Committee of the Association, on the movement on behalf of habitual drunkards, presented their report at the last general meeting of the week, which was held on Friday afternoon. A resolution adopting the report, and reappointing the committee, was unanimously passed.

While the old country looks grim on every summons to action, and will yield to no benevolent appeal, or any call short of stern necessity to bestir her lethargic limbs in this humane direction, it is pleasing to observe that in her young colonies, as in America, the subject of inebriate asylums has for years engaged earnest attention, and has already embodied itself in vigorous and useful institutions. These are, in part, the result of legislation, but much more of public benevolence. The two elements are combined, and very properly, for the promotion of public and private ends; but care requires to be taken to secure their mutual harmony and adjustment, otherwise, in place of co-operation the result will be friction and obstruction.

In illustration of this we may mention the Melbourne Retreat for the Cure of Inebriates, Northcote, the Annual Report of which, for 1876, has just reached us. That Institution is now in the fourth year of its existence, and is under the care of a manifestly competent and able head, in the person of Dr. McCarthy, J.P., its Medical Superintendent and Secretary. The Committee complain in the outset that the admissions are not one-fourth of the applications, necessity being laid upon them to refuse the rest for want of means. This unwelcome necessity they, with no ambiguity or reserve, lay to the door of a stingy and apathetic Government, from whom, since the Parliamentary grant of £500, in 1874, they have received no assistance whatever. To the credit of previous statesmen they acknowledge two separate grants of £1,000; and they own their indebtedness to the Hon. James Service, not only for that last grant of £500, but also for his promise to continue the grant for some years longer, and to make it unconditional, so far as concerned private subscriptions, and to leave in his office a memorandum to that effect. Unfortunately a political change occurred, and the new Treasurer, Sir James McCulloch, has met the representations of

the Committee with stern and persistent rebuffs, in the course of which he pronounced the institution to belong to Dr. McCarthy himself.

In these circumstances the Committee could only fall back on the public and on their own energy, and bide their time. So far as the Victorian Parliament was concerned they had always found it willing to vote sums in aid, and they look forward in hope that, under favourable changes, the fountain at present sealed may be re-opened. They are already self-sustaining, minus the Superintendent's salary; but they are put to a great disadvantage. They are under statutory obligation to keep up a certain staff of servants,—a staff that “would be required for five patients, and would suffice for fifty.” Their present straits prevent them from having more than thirteen beds. Government regulations further handicap them by limiting their charge, even to the wealthiest patient, to £3 per week. This is the sort of friction and counter-tugging to which we have above referred, into which the combination of the legislative and voluntary elements run the risk of degenerating. Check-mated in this way for the present, the Melbourne Retreat is wholly unable to do anything in the charitable line, the only problem open to them for the time being, while they are held fast in the Government vice, being that of maintaining their own existence.

In this laudable endeavour they have been generously backed by an appreciating public, from whom, under the energy of the Superintendent, they received more than £2,000. His time not admitting further effort in this way, the contributions, being left to flow in spontaneously through the post, have of course fallen off. These drawbacks, however, will, it is presumed, be only temporary. “If the Government,” say the Committee, “would pay the mortgage of £1,700 on the property, and build accommodation for, say, forty patients, and furnish the bedrooms, we would not ask them for another penny. We would undertake to make the institution self-supporting, take in patients for as small an amount as possible, having regard to the object, and some cases gratuitously.”

This fair and reasonable proposal they urge on the adoption of the Government by a very telling argument. In 1876, it appears, the aggregate sum received by the Government on account of alcoholic liquors, hops and malt, tobacco, and opium, was £778,000. These were the malificent agents, especially the first—for alcohol in that work is *facile princeps*—that manufactured the very mischief which the Melbourne Retreat was established to cure. And if the Government would only give the Retreat one niggardly pound for every thousand of the above-named sum, they and the community would gain a hundredfold. Referring to a brisk debate

in their Parliament to get five per cent. of the license fees, to defray the cost of testing liquors, under the cry of adulteration, the Committee justly declare, and cite Dr. Richardson in proof, that in the matter of intoxicating liquors, the adulteration scare is one of trifling significance—alcohol, of all its adulterations, being “itself the crown.” They pointedly say:—“It would be more rational for the Government to give that five or ten per cent. to the Retreat to cure the evils of alcohol, than expend it on hunting for that which is comparatively harmless. It is thus they act in America, where they put more value on human life, and make the liquor traffic pay for the mischief it has done.” And what a poor infinitesimal of the mischief can thus be paid for, even were the drink power mulcted a hundredfold more for that end! The Committee close their Report by freely charging Government with causing, by their neglect, the loss of not a few precious lives; and by a statement of their receipts (£1,169 12s. 4d.), and of their expenditure (£1,377 4s. 6d.).

The Medical Superintendent's Report, which follows, starts with a protest against charitable institutions vying with each other as respects numbers. Such institutions, Dr. McCarthy insists, should all be made self-supporting. It is on this principle that the Retreat is conducted; in contrast to those institutions who receive Government aid in proportion to the admissions on their books. Its object is to provide an asylum for those able and willing to pay for their cure, but who, left to themselves, would do nothing for this end. It is the first of the kind in the British Empire. Though cradled in difficulties, it has only £760 of debt, besides the mortgage of £1,700, while its property has a value of £4,800. “I have read,” says he, “of almost every Inebriate Asylum in existence, and I have read of none that can show the same success with so little means, and in so short a time.” The amount received from patients in 1874 was £610; in 1875, £816; in 1876, £964. This warrants Dr. McCarthy's retort on the Government Treasurer. “Sir James McCulloch said the Institution was mine. I may tell him that if it were mine, I would soon make it a success, and not ask him for any assistance.” He does not spoil the Victorian Government by sparing the rod. That Colony, he affirms, lags behind all other Governments in its encouragement of Retreats, though it receives a larger amount from alcohol, and shows a higher rate of drunkenness and drink-fatality, than any other country—things that “stand in the relation of cause and effect.” He tells an expectant public that the Retreat will do more good when Government will do their duty; and he puts it to the Government to bethink themselves how far they have to answer for the many drink-caused deaths, and “whether it would not be better for them to pay to the Retreat the money

which they now pay to coroners and undertakers." "It is because," he adds, "I see the matter clearly, and know by experience that scores of lives could every year be saved here that now perish," that he is so astonished at the unpardonable apathy of the Government. Meanwhile, his duty is twofold—first, to do his best on a small scale, and next to try to show the public that the Government are "obstinately refusing to do anything to save the lives of those through whose destruction they receive £778,000 annually."

In the previous part of his report, Dr. McCarthy contributes some noteworthy deductions from his own experience, which well deserve the serious consideration both of the philanthropist and of the physician.

The first of these relates to the notorious mendacity of dipsomaniacs. On this painful subject he says:—

"It is not my intention to dilate on the passion or disease of drink-craving—the public for many years have known my views on that subject, through the press; but three years' experience in this Retreat has afforded me much information, and the first and the most important is the fact of the total unreliability of the statements of inebriates, especially of female inebriates. I had not the slightest conception of the *havoc* made on their *moral faculties* by alcohol until I experienced it here, especially in regard to truth and moral duties and obligations. I am decidedly of the opinion that the testimony of an inebriate ought not to be received in a court of justice, unless corroborated. I would not rely on the testimony of a lunatic or an inebriate, for both are insane. The lunatic has *mental* insanity, the inebriate *moral* insanity. The lunatic has delusions, and his acts are the consequences of these delusions; the inebriate has no delusions, unless in delirium tremens, or when his brain is structurally diseased, when he is really insane. The most marked deterioration of the moral faculties is in his disregard of truth; the next is his disregard of domestic and family duties and obligations as husband or parent, and, as it would appear, as a consequence of that, his disregard of religion and its practices, and his distaste for any allusions to spiritual matters, unless to deny them. Hence his preference for books that throw doubt on hereafter (this, I find, is very common); hence the preference of these persons for novels, amusements, visits, and everything that can divert their mind from serious thought—the first principle for cure, after recovery; hence I have called this a *Retreat*, to remind the patients that they are in retirement, where they can leisurely, with a cool head and mind, survey the past, the present, and the future, a matter which many had been incapable of doing for years. It appears to me that colonial adults partake

in a degree of the restless spirit so much spoken of in colonial youth, inasmuch as, were it not for '*The Inebriates' Act*,' I would require a very high fence around this farm; for some would try to move heaven and earth to get away, under the pretence of urgent business, but, in truth, to get drunk; hence friends ought to keep away and make their visits few."

The next generalisation we would bring into view from Dr. McCarthy's Report is the responsibility of medical men, both in originating the drink-craving by inconsiderate prescriptions of alcohol, and in preventing fully-developed cures by the reckless concession of medical certificates to procure liberation of dipsomaniacs from their confinement in the Retreat. Here lawyers also come in for a word:—

"I regret to say that in a large number—if I could believe the patients, especially in the case of women—the habit or passion of inebriety originated in medical advice imprudently given or misunderstood, and therefore husbands did not interfere, or were ignorant of the danger until the passion was acquired.

"I am sure that few medical men are aware of the evils for which they are unconsciously responsible. I am, of course, not speaking of such gross conduct as that of a medical man who came to me half-drunk, and offered me a reward if I would let my patient go; and, on my refusal, got him released by the Supreme Court, and both the doctor and the patient are now dead. As to the Supreme Court liberating patients on medical certificates, my experience is that in almost every case death within one year was the consequence. They are always the worst cases; and I have warned attorneys and medical men who interfered that the death of the patient would lie at their doors. I have the power myself, by the 10th section of this Act, to liberate my patient; and I never did, and never will, keep any patient one day after I consider he is cured; so that every case applying to the Supreme Court for release must be considered as one, in my opinion, not cured. As a matter of fact, a man's fellow-patient, who observes his conduct and converses with him daily, can form a more correct opinion as to whether the drink-craving is cured than the doctor who merely sees that the patient appears in good health. And I am happy to say that this appears also to be the opinion of the Chief Justice, as he places very little reliance on medical certificates as to cures of inebriates. It is an extremely difficult question, and nothing but constant daily intercourse with the patient, and observing his apparent desire to be cured, his willingness to submit to discipline, restraint, and treatment, can enable any person to form anything like a correct judgment as to cure. This was so evident that '*The Inebriates' Act*' does not make any allusion to a patient being liberated on

medical certificates. As to attorneys' affidavits, all I have to say is, that if attorneys were kept outside our boundary, there would be more cures and fewer deaths of inebriates."

The next deduction relates to the inveteracy of confirmed cases, and to the causes which insensibly operate to render some of these hopeless. On this most tragic topic, the Medical Superintendent says:—

"The moral defects above described do not apply to young inebriates of short standing, but to those who have for years indulged in excess. This is easily understood, for as a few hours' indulgence will so alter a man's temper and conduct, this change of temper and conduct by frequent indulgence to excess will become chronic, and an acquired second nature, which cannot be altered in three months; for the time of cure must bear some proportion to the time of indulgence. Let not, therefore, friends expect a speedy cure when the man's nature is changed, his structure saturated with alcohol, evil habits acquired, self-respect lost, religious ideas avoided, self-indulgence his constant thought. Add to this the certainty of a weakened will, and the probability of a diseased brain, and we cease to wonder at the result, and must come to the conclusion that to attempt to cure an old inebriate is uphill work, but that it is a noble though difficult task, and hence that those entrusted with such an arduous duty ought not lightly to be interfered with; and that those whose friends are indulging in excess should anticipate the time in which cure becomes extremely difficult, if not impossible. I allude to structural disease of the brain from alcohol. In these cases as the mind is gone, there is nothing left to resist temptation; the man is a wreck, and can only be made happy or comfortable, or his life prolonged, by his being placed where he cannot get alcohol. Dr. Druitt says, 'that it is the people who are a little cracked that furnish the most obstinate and habitual incurable cases of inebriety in private life.' Alcohol, long continued, even in moderation, will injuriously affect every part of the body, as well as the mind. As to certifying or publishing percentage of cures, I think it is a mistake. I cannot consider any man cured unless he continue extremely temperate, or teetotal, for two years after leaving the Retreat. I agree with Dr. Parrish, of Pennsylvania, who does not approve of pronouncing persons cured on leaving the institution, no matter how well disposed they may appear; and in his evidence before the Committee of the House of Commons in 1872, he says (in Answer 3,164), 'that low-lived, selfish, vicious men are seldom cured; they are grumblers and vindictive, and report that liquors are used in the Asylums, when it is they that use them. They ought to be locked up and put out of the way.' He also says (Answer 2888), 'that fifty per cent. of idiots are children of drunkards.'"

Though disapproving of the practice of certifying or even publishing percentage of cures, it appears from the tabular statement embodied in the Report that the proportion discharged cured was very large, and that, notwithstanding cases very critical on entering, no death occurred. He takes occasion to reiterate the protest against the practice of locking up inebriates in police cells, which Dr. Richardson calls "the anteroom to the grave," and directs attention to that eminent physician's suggestion for distinguishing between drunken and apoplectic cases by means of the thermometer—the former exceeding the natural temperature of 98° , the latter, under the heat-reducing power of alcohol falling under that normal condition.

We close with his emphatic testimony in favour of our movement—none the less forcible and emphatic that he is not an enrolled adherent of it:—

"In conclusion, I may state that a death from drink occurs in this colony for every day in the year. It has been jocosely said that a poor man ought not to be deprived of his beer. The greatest blessing that could happen to the poor would be the absence of beer and other intoxicants. Almost all outrages may be traced to their use. I am not a teetotaler, but I consider such language as 'rabid teetotalers, &c.,' as unmerited, offensive, uncalled-for, and only to be expected from those who over-indulge. I never yet heard of a case of murder, or divorce, or wife desertion, in families where the husband and wife were teetotalers."



THE BRITISH MEDICAL ASSOCIATION AT MANCHESTER.

THE annual gathering of the members of the British Medical Association, usually presents some points of interest for the friends of Temperance. The attendance at this year's meeting was very good, the numbers present exceeding those of any of its predecessors. The subject of alcohol and its effects on body and mind came up more than once, and the debates gave satisfactory indications of the increased attention which is being devoted to the questions connected with Temperance. It is easy to perceive, however, that there is considerable room for improvement. In looking over the addresses of the President of the Association, and of the Presidents of Sections, one seeks in vain for any direct or even indirect reference to intemperance as a factor in the production of disease. It might fairly have been anticipated that in the remarks submitted at the opening of the Psychological and

Public Health departments, some allusion would have been made to the subject. The presidents of these sections, by a somewhat strange coincidence, both quoted the saying of Descartes, that "if the perfectibility of man be possible, it will be through the medium of the medical sciences;" but neither the one nor the other referred in any way to the influence of that which is in reality the greatest of all causes of imperfections in our midst. In another address, however, on State Medicine, delivered by Dr. Ransome, Lecturer on Public Health in Owens College, the influence of intemperance was pointed out in a very able manner. This evil was shown to be one of three great obstacles to the improvement of the public health, the other two being town life, and infant mortality. We think it would not be difficult to show that in each of these agencies alcohol plays an important part.

At the close of Dr. Bucknill's address on Psychology, came the debate on the control of Habitual Drunkards. The subject was introduced by able papers thereon, read by Mr. Mould, the superintendent of a large asylum near Manchester, and by Dr. N. Kerr, of London. In the discussion which followed, it was pointed out that there were in reality two classes of asylums needed, since there were two classes of drunkards. There are inebriates who are frequently being sent to gaol, there are others who rarely if ever come under the actual notice of the policeman; both are pests, and are increasing in number, and therefore should be effectually dealt with. It was pointed out that amongst the respectable classes, there are men and women who inflict on their families and friends an unspeakable amount of misery, but there are no means of dealing with them. On the other hand, there are drunkards who are frequently being brought before the magistrates, and sent to prison, but who are neither reformed nor deterred thereby. Three or four prison surgeons testified to the folly of sending drunkards to gaol, month after month and year after year, for seven days only. The first commitment had, in almost every case a considerable effect; but the second incarceration was scarcely felt, and after the third the offender cared nothing about the matter. In some instances men and women passed much of their time in going into and out of prison. Dr. Braddon mentioned one drunkard who had been imprisoned for over three hundred times. It was urged that such persons should be sent to reformatories, in which they should be brought under appropriate treatment, and where they should be put to some sort of work so as to provide for their own support, and give them the industrial habits which they had in some instances never acquired, but which, in a greater number, they had lost. When the committee of management believed that a cure, or at least a great improvement, had been effected, then a ticket-of-leave might be

granted, and any money which the holder had earned might be given to him to help him until he procured employment, and if the police found that the holder was lapsing into his old habits, the offender should be sent back for further treatment. We doubt, however, whether the Legislature would leave the liberty of the subject at the mercy or discretion of any body of men. It seems to us that the present system should be amended by a doubling of the penalty for each additional offence. If, for the first offence, the term of imprisonment were seven days; the second should be fourteen; the third, a month; the fourth, two months; the fifth, four months. Under such a cumulative system, there would be no scope for that caprice and abuse of power, which would be possible where the drunkard was dependent for his discharge on the decision of the medical officers and committee, whilst the deterrent effect would be equally strong in most cases. Dr. Bucknill has hitherto been a most determined opponent of institutions for treating the class of drunkards who as a rule are never sent to prison. This was well known in the section; nevertheless a vote was passed, without a single dissident, in favour of the legislative control of such persons.

A paper was read in the same section by Dr. Shuttleworth, with the object of showing that idiocy is not so frequently the result of the drunkenness of parents as is sometimes alleged. This may be quite true, and yet, as a contributive, drink may and does play a most important part in the production of congenital defects of the brain. Whilst the writer denied that, as a rule, congenital idiocy was the immediate legacy of the drunkard to his offspring, he nevertheless admitted that "physical and mental degeneracy were doubtless the heritage, and scrofulous disease, nervous instability, and even moral obliquity, might be amongst the direct bequests." Nay, he went even further than this, he said: "It needed, however, but one step more—the conditions remaining unfavourable—to reach actual idiocy; and thus, in very truth, was visited the iniquity of the father upon the children to the third and fourth generation."

By far the most pleasant event to many in connection with the recent meeting was the usual Breakfast given by the National Temperance League to the members of the Association. The attendance was unusually large; the eager inquiry for tickets which came under our observation on the two preceding days, proved the great interest which this gathering had excited. We were delighted to see once more the venerable President of the League, Mr. Bowly, in the chair. It would be difficult to point to anyone who would more appropriately preside on such an occasion. There are few shrewder judges of character than medical men; anything weak or overdone is speedily detected,

and condemned or resented. On the other hand, where a man conducts himself frankly and courteously, he is, as a rule, treated in a similar manner. The opening speeches were admirable, placing the importance of the Temperance question and the responsibilities of the medical profession fairly before the members. Mr. Bowly reminded his hearers that they must all admit that there was "a tremendous evil in their midst," and urged that there was one simple and most effective remedy, viz., total abstinence. Mr. Selway ably assisted in enforcing the lesson taught by Mr. Bowly, and the two speeches evidently made a highly favourable impression on the large assembly, evoking at intervals very warm responses. An opportunity was then given for the free expression of opinion, and especially for the statement of difficulties or objections. Dr. Milner Fothergill rose and stated that he was not a total abstainer, but admitted that "Temperance Associations were very much needed." He confessed with manly frankness that medical men were in many cases blamable for encouraging drinking, and said, "There was a great deal of drinking encouraged, promoted—and he was afraid he might say absolutely created—by the medical profession." He protested very earnestly against the way in which respectable women were urged to take liquor, and even children, so that "the seeds of drinking were sown in the child before it had any responsibilities of its own."

Dr. C. R. Drysdale thanked the National Temperance League for the hospitable way in which they had received their guests, entirely agreeing with the objects of that Association; and, after pointing out that it was the duty of medical men to support the Temperance movement, he stated that he was in Paris a year ago, last November, and speaking to an eminent medical man there, he said:—"I suppose you have much less disease caused by alcohol in Paris than in our country." "Quite the contrary," he said; "next to pulmonary consumption the diseases that carry off people in the greatest numbers in Parisian hospitals are caused by alcohol." Drs. Kerr and Eyton Jones spoke earnestly in favour of total abstinence, the latter referring to the successful results of excluding alcohol from the Wrexham Workhouse.

On such occasions nothing is more desirable than to hear a candid statement of any objections which may be entertained towards total abstinence. Two speeches delivered in opposition were listened to attentively, but we must confess that we were surprised at the weakness and the palpably fallacious character of the objections raised. Mr. Oakley, of Halifax, referring to the remarks of Dr. Fothergill, stated that he did not believe that medical men would prescribe alcohol to please their patients. We can only say that the learned gentleman appears

to differ very greatly in opinion from the majority of his brethren. Though professing to be an abstainer the whole of his remarks were adverse to the total abstinence movement. "He himself, although not what might be called a teetotaler, had been an abstainer for some twenty years; but if he thought it necessary—if he thought his health would be better by his taking alcohol, he would take it." In the face of the tremendous evil of which Mr. Bowly spoke, we deplore such half-hearted sentiments, and are sorry for the man who is so lacking in public spirit that he would in this way try to throw cold water on the efforts of those who are ready to make a sacrifice in order to aid in bringing about a different state of things.

Mr. Oakley alleged that "There was no doubt that in many cases people were situated amidst such injurious surroundings—bad sewerage, bad ventilation, and vitiated atmospheres—that a certain amount of alcohol was almost necessary in order to enable them to digest their food." This statement evoked cries of "No, no," but, undeterred by this expression, the speaker proceeded to say that "he thought it was necessary, in the first place, that they should see that municipal corporations attended to their duties by providing better sewerage, better ventilation, and improved dwellings, and then any necessity for stimulants would have passed away." This is the echo of a cry which was raised years ago, but which subsequent experience has proved to be to a great extent false. Take two instances, Manchester and Liverpool—millions sterling have been spent on sanitary improvements, and yet drunkenness in these great centres is as prevalent to-day as it was twenty years ago. The most intelligent sanitarians are coming to perceive that until the masses can be induced to drink less, the labours of medical officers and of sanitary committees will be comparatively in vain. "His experience taught him that men came from the country strong, hardy, and well, and, after living for a few years in the adulterated atmospheres of our large towns, they began to get tired, exhausted, and wearied, feeling themselves almost unable to do a day's work; and some day they would take a glass of stimulants, and feel that it did them good. The man felt that it picked him up."

This is the excuse offered by the gin-drinker; it is the defence which we have heard offered also by the taker of laudanum; it is, however, very sad to hear any member of the medical profession setting up such a plea. Working-men should be told that alcohol, whilst arousing the stomach for a time, weakens it afterwards, and should be urged to devote the money they now spend in beer to the payment of an increased rental, so that they and their families may get into better dwellings, and have a chance of enjoying better health.

Dr. Williams, of Liverpool, stated that six and a-half years ago he had a severe illness which compelled him to abstain entirely, and he felt so much better without the usual glass of beer or wine to dinner that he had never commenced taking it again. He objected, however, to the statement that the prescription of alcohol led to drunkenness. He had a large practice, and occasionally ordered stimulants to patients, and he alleged, that never had he known a person become a tippler in consequence of his prescription. No wonder that this emphatic and apparently conclusive declaration elicited a cry of "Hear, hear." Unfortunately, however, for them, and for his own consistency, Dr. Williams added, that whenever he had found that his prescription of stimulants had proved "a first step towards intoxication" he had "always been able to trace a previous tendency to drinking." Then it seems that some of the doctor's patients to whom he has ordered stimulants, have subsequently developed a tendency to drunkenness! The question is, Has the alcohol prescribed by the doctor aided in fanning into flame the smouldering fire? We should say, on the Doctor's own showing, most unquestionably; which proves how dangerous is the practice Dr. Williams attempted to defend.

On the whole the gathering was a most successful one, and we are sure it has done good. Indeed we attach very great importance to these annual breakfasts. They prove to a large body of medical men that the teetotalers are not all as repulsive and offensive, as outsiders too often have been led to believe; and they are more disposed to listen, and less inclined to thwart the efforts of Temperance reformers than they previously were.



INTEMPERANCE AND LUNACY.

THE Report of the Commissioners in Lunacy, for the year 1876, addressed to the Lord High Chancellor, dated 31st March, 1877, was laid before the House of Commons just before the session terminated, and has now been issued. It is an interesting, although a melancholy, document. It is sad to learn that upon the 1st of January last, in England and Wales, there were no less than 66,636 persons of unsound mind—these numbers not including 252 lunatics who reside in the charge of their respective committees.

The Commissioners say,—“We have long been desirous—concurrently with the publication of details as to the number, classification and distribution of the insane—of setting forth some statistics as to the causes of insanity. Considerable difficulties,

however, have always stood in our way. On consideration there appeared little hope of procuring trustworthy returns as to the prevalent causes of insanity without the co-operation of the medical superintendents of the County and Borough asylums, many of whom in their annual reports to their Committees of Visitors had already been accustomed to give a table of causes of insanity, verified by their own inquiries, though differing in form and detail in each institution."

It is obviously of great importance to ascertain by careful inquiry on the part of those well qualified to investigate the matter, the cause or causes which may have produced this terrible infliction, and it is matter of considerable satisfaction that we are now, for the first time, put into possession of important facts tending to elucidate this great evil, from which so large a portion of our countrymen and women are suffering.

The Commissioners prepared a special register, which they asked the medical officers of asylums, and all other institutions (except workhouses) for the reception of insane patients, "to keep for one year only as an experiment," and they express their thanks to the officers for the assistance thus rendered. We trust it may be decided to go on collecting from year to year facts relating to insanity, so that we may not only be made acquainted with the number and the mode of treatment of the insane, but, learning more than we have hitherto known of the causes giving rise to the disease, it may become possible to prevent its development.

Although the Tables appear to have been prepared with considerable care and with judgment, yet the Commissioners admit that if continued they could be improved by further subdivision, and perhaps rearrangement. The total number of lunatics dealt with in the returns is 14,152 (which does not include workhouses or the vast establishments at Leavesden and Caterham, under the care of the Metropolitan District Asylum Board)—of this number 11,011 are classified as pauper, and 3,141 as private patients—of the whole 6,973 are males, and 7,179 females.

The first of the new Tables in this Report shows the occupations and professions of the patients admitted during 1876. These are arranged (according to the Census Tables) into six classes, and these into fourteen orders; but it would have been much more useful had a greater subdivision been effected, and trades or occupations, in which large masses of the people are engaged, had been kept distinct.

The second of the new Tables comprises a summary of the causes of lunacy which are set down under the general division of "moral" and "physical"; the moral causes being six; as, domestic trouble, religious excitement, adverse circumstances, love affairs, worry, mental shock. The physical causes are

arranged under twenty-one heads, as intemperance, overwork, puerperal, brain disease, hereditary, &c., &c. "In 3,008 instances, or 21 per cent. of the whole 14,152 admissions, the causes were 'unknown'; considering," adds the Report, "the inherent difficulty of the subject this proportion of unascertained causes cannot be deemed unexpectedly large."

A third Table distinguishes the experience of County and Borough Asylums, where paupers are almost exclusively admitted, and of hospitals and licensed houses, where chiefly private patients are received; and a fourth Table shows the causes of insanity arranged according to the occupations and professions of the patients.

These Tables contain many points of great interest to the Temperance reformer. For the first time is placed before the world, based upon accurate data, precise information, which abundantly confirms the popular idea that a large amount of lunacy is directly attributable to strong drink; but few could be prepared for the appalling revelation that in 2,114 cases received into asylums last year this cause is officially assigned, being nearly 15 per cent. of the whole. It is frequently said that strong drink is wholly unbiassed in its operations, although some would have it believed that education and mental training would prove a preventive of intemperance; but the hard logic of these figures confirms the assertion that alcohol affects alike injuriously the brain of the poor labourer, who is compelled to seek a refuge in the asylum provided at the expense of the rates, and of the well-to-do and educated, who, when attacked by this disease, find a refuge in a house licensed to receive them: as the Tables show the percentage of insanity attributable to intemperance to be 15 per cent. in the pauper class, and 14.4 per cent. amongst the private class. One comforting fact is revealed by these Tables. It is believed that secret drinking is extending among women, who probably do in many instances drink more than formerly; but happily they stop short of the drunkenness of men, as it appears the number of men is three times greater than that of women whose insanity is attributable to intemperance; the numbers being 1,584 males and 530 females. There is no other single cause of insanity which yields such numbers as intemperance, and it is not unreasonable to suppose than an equally large proportion of those 3,008 cases the causes of which are unknown, might be set down to this prolific cause. Hereditary (with other ascertained cause) comes next, with 1,415 cases; domestic trouble (including loss of relatives and friends) yields 905 cases. Mental anxiety—worry—answers for 751; while brain disease, with epilepsy, has 920 set down to it. Adverse circumstances (including pecuniary difficulties) yields 691 cases. Overwork, of which so much is now

said, with all its attendant evils, has to answer for only 288 cases of insanity. So that it would appear the saying "overwork does not kill, it is worry that kills," may be applied to insanity as well as to other forms of disease.

The physical effect of alcohol is alike upon prince and peasant, learned and unlearned; but the more delicate organisation of the better classes is far more amenable to moral causes, as we find that among the private patients, "worry," has to answer for 9.9 per cent. of the whole, whereas in the pauper class it is only 3.9 per cent.

The Tables giving the numbers of insane patients admitted last year in relation to the several groups of trades or professions, reveals some curious and startling particulars; but we much feel to want greater detail and subdivision, as when the enormous population in England and Wales is compressed into fourteen groups or orders, it is obvious that it is impossible to specify the relation of any particular trade to insanity; but yet we may point out one or two striking facts; thus: "Order 2. Persons engaged in the defence of the country" has an unhappy pre-eminence, having to answer for 34 per cent. of the cases induced by intemperance. Persons dealing in food and drinks, &c., yield males 33.1 per cent., and females 11.5 per cent. of these cases; and as another form of stating the fact—for it cannot be too often reiterated, that social position and wealth are of themselves no adequate protection against strong drink—it may be pointed out that the class of persons of rank or property, not engaged in any office or occupation, sent no fewer than 31 persons—16 males and 15 females—to private asylums, the cause being intemperance.

If we trace intemperance as a cause of insanity in the several county and borough asylums we find some singular variations—the fewest cases being 4 in Cornwall, 71 in Durham, 295 in four asylums in Lancaster, 181 in Middlesex (Colney Hatch and Hanwell), 135 Surrey (Wandsworth and Brookwood).

It is to be hoped that the figures thus gathered together may have their due weight, not only upon the public at large, inducing them to abstain from strong drinks, but with medical men, who, from the force of these statistics, should be led to refrain from recommending their use, and to use their influence with their patients to induce them to abstain. The medical officers of lunatic asylums and hospitals will also, it is much to be desired, perceive that the custom of giving those patients beer and other forms of strong drink must be injurious to at least all that large number who have been brought under their care by intemperance. Upon the matter of "wines, spirits, and malt liquors" consumed in these hospitals for the insane this Report furnishes strange and important revelations. Thus, at Manchester Royal

Lunatic Hospital, Cheadle, with 158 as an average number of patients, the cost of these drinks last year was £1,279 5s. 7d.; at Barnwood House, Gloucester, with 101 patients, the cost was £667 os. 8d.; at the Charitable Institution for the Insane, near Stafford, with 141 patients, liquor cost £1,243 19s. 6d.; at Bethlehem Royal Hospital, with 270 patients, the cost was £1,686 os. 3d.; at the York Lunatic Hospital, with 174 patients, the more moderate sum of £501 5s. os. was expended upon these articles. But was this expenditure necessary? Was it wise thus to lay out large sums of money such as the few samples we have given indicate as the rule in these hospitals? We are not ourselves concerned to answer these questions, perhaps if we did so we might be told that we are not experts, and not, therefore, qualified to give an opinion; moreover, as teetotal "fanatics," any expression of ours upon the subject must be tainted with our preconceived notions; well, then, we will refrain, and invite the conductors of these establishments, medical officers and others, to consider the case of 'The Friends' Retreat, York, where, with 131 patients, the expenditure for strong drink is just nil! Perhaps this example is too near to be observed by the York Lunatic Hospital, but we hope it may be duly regarded by some of those at a distance, particularly the hospital at Cheadle. The Commissioners, when visiting the Retreat found no fault with the absence of alcoholics, but, on the other hand, say,—“We saw dinner served in several rooms; the fare was good, and the service proper.”



ALCOHOL IN RELATION TO PUBLIC HEALTH.

By J. J. RITCHIE, M.R.C.S., Medical Officer of Health, Leek.

THE results of sanitary work in different localities have often been referred to as falling short of the efforts put forth to improve the public health, and as not worth the money expended by various authorities in the accomplishment of this object.

Now I think this view has arisen from a mistaken idea of what has been, or can be, done by external measures for the conservation of health and life, and of what is beyond the scope of such means.

It is quite possible to make good sewers and drains, and keep them clean—to furnish an abundant supply of excellent water—to facilitate greatly the inhalation of pure air—to provide public playgrounds, and do many other things, all right and proper to be done, and all conducing to the formation of a healthy, thriving,

and moral population ; but as these arrangements, however good, only alter the *material* causes of deterioration and death, it is needful, in order to get rid of the *social* causes, that the principles of personal and domestic hygiene should become matters of intelligent conviction among all classes of the community.

I am satisfied that the general sick and death-rate of the country is vastly increased by one cause alone—viz., the habitual use of alcoholic drinks ; and, in order to prove this statement, and in a humble way help on a much-needed reformation, I will give the results of fifteen years' sanitary work at Leek. During the ten years ending 1860, the annual average rate of mortality was 29·3 to 1,000 living, and the mean age at death was 24·8 years.

In the ten years ending 1870, during which sanitary measures were diligently carried out, the figures were as follows:—

Annual rate of mortality 23·6 per 1,000.

Mean age at death 32 years.

During the five years ending 1875, the rate of mortality was 23·2, and the mean age 30·3. It struck me that this improvement, though great, was not so great as should have followed the means employed, and I requested the sanitary inspector, who had ample facilities at hand for the purpose, to construct for me a table showing the increase or decrease, during the above periods, of the different classes into which the Registrar-General divides diseases. Here it is:—

CLASS.	CAUSES OF DEATH.	Average Annual rate of Mortality to 1,000 living.		
		1851-60.	1861-70.	1871-75.
I.	Zymotic Diseases	7·94	3·99	3·76
II.	Constitutional Diseases ...	7·61	5·39	3·82
III.	Local Diseases	8·37	10·03	11·72
IV.	Developmental Diseases ...	4·59	3·49	3·09
V.	Violent Deaths	0·74	0·71	0·47

Now it is here clearly seen that in every class but one the mortality is most notably lessened ; but in that it has markedly increased, and on looking deeper into the particular diseases causing death in this class, the excess was found to be in those of the brain, heart, liver and kidneys, more especially the two last named, which are the organs most surely and earliest affected by alcoholic beverages. The specific intensity of heart disease had increased as from eight to eleven—that of liver disease as from thirteen to thirty-four, and diseases of urinary organs, were shown to be four times more fatal than they were twenty years ago.

When it is remembered that, during this period, the dwellings of the people have been immensely improved, both in size and style; that overcrowding has been abated, that the mills and workshops have been kept cleanly and well-ventilated, that the hours for work have been reduced, that the food provided has been abundant and good, and the water supply constant and plentiful, —but withal that *alcoholic drinking has increased*, the table above quoted affords strong testimony to the pernicious effects of such a practice, and discloses at least one chief cause of non-success in the adoption of sanitary appliances.

Results similar to those obtained at Leek would, I doubt not, be found to exist in many, if not all, other localities, if looked for, and pretty plainly show that a correction of the drinking habits is the one essential basis on which to build the superstructure of improved public health, and general elevation of morals in our country.

Miscellaneous Communications.

ALCOHOL IN WORKHOUSES.

(From the *British Medical Journal*.)

A FEW sessions ago an elaborate parliamentary paper was issued showing the quantity and cost of alcoholic drinks supplied at the expense of the rates to paupers in every union in England. The more useful parts of that document have been called for afresh, and are now published as a return to the House of Lords, presented on the motion of Lord Cottesloe. They are thus summarised by the *Pall-Mall Gazette*. In 1871, the aggregate quantity of ale—including under that term every description of beer—wines, and spirits consumed by the paupers was 10,125,050 pints; according to the statement just out the quantity consumed in 1876 was, 6,964,005 pints; thus disclosing a decrease in five years of 3,161,045 pints, or thirty-one per cent. To what extent each kind of alcoholic drink was reduced in quantity is shown hereunder:—

	Year ended Michael- mas, 1871.	Year ended Michael- mas, 1876.	Decrease in 1871.
Consumed by in-door paupers :	Pints.	Pints.	Pints.
Ale	8,675,337	6,268,769	2,406,568
Wine	168,700	115,583	53,117
Spirits	232,712	205,550	27,162
Consumed by out-door paupers :			
Ale	780,799	244,793	536,006
Wine	165,829	70,584	95,245
Spirits	101,673	58,726	42,947
Total	10,125,050	6,964,005	3,161,045

This gives the absolute decrease, irrespective of the number of paupers whose demand for stimulants had to be supplied by the guardians in 1871 and in 1876. Taking the mean of the number of paupers enumerated at midwinter and midsummer of each of the years ended with Michaelmas, the figures were respectively 1,029,628 and 730,131. The quantity per head in 1871 was therefore 9 8·10 pints and 9 5·10 pints in 1876: that was a decrease of 3·10ths of a pint per pauper. The diminution in cost was upwards of £38,000; the outlay for each kind of drink was this:—

	1871.	1876.	Decrease.
Beer	£56,967	£38,867	£18,100
Wine	23,518	10,505	13,013
Spirits	34,940	27,617	7,323
Total	£115,425	£76,989	£38,436

The cost per pauper in 1871 was 2s. 3d., and in 1876, it was 2s. 1½d., hence the saving has been equal to 1½d. per head. Several of the metropolitan workhouses have heavy yearly bills for ale, wine, and spirits, supplied to their pauper inmates. These are some of the more conspicuous charges for 1876:—Bethnal Green, £676; St. George's, £1,205; Holborn, £1,214; City of London, £2,066; Marylebone, £1,789; St. Pancras, £1,868; Strand, £1,021; Camberwell, £915; and St. Saviour's, £1,158. On the whole, the practice of supplying stimulative drinks to paupers has but slightly diminished since 1871.

(From the *Lancet*.)

A return recently presented to Parliament shows the cost of alcoholic stimulants given, under order of medical officers, as relief in the various unions of England and Wales during the year ending Michaelmas, 1876. The average cost during the year throughout England and Wales was 8s. 7d. per head for indoor paupers, and 7d. for each pauper receiving outdoor relief. The variations, however, shown by this return in the cost of alcoholic stimulants in the various unions are sufficiently remarkable to call for inquiry and investigation, which, it is satisfactory to find, is not being lost sight of by the Local Government Board poor-law inspectors. It appears that in the metropolis the cost under this head was 9s. 10d. for indoor, and 5½d. for outdoor paupers; whereas in the northern division it did not exceed 2s. 11d. for indoor, and 3d. for outdoor, paupers. In Newcastle, for instance, the cost was 1s. 4d. for indoor, and 5d. for outdoor paupers; and in Sunderland the figures were as low as 7d. and 2d. respectively. The question is, Do the paupers in our northern towns suffer from the small amount of alcoholic stimulant they receive, and if not, do the London paupers get an excessive allowance?

—O—

MEDICAL SPEECHES AT THE ROYAL ALBERT HALL.

THE annual fête of the National Temperance League was held this year on Tuesday, 10th July, at the Royal Horticultural Gardens and the Royal Albert Hall. At the evening assembly, in the last-named building,

The CHAIRMAN (Sir Harcourt Johnstone, M.P.) said: Ladies and gentlemen, I believe that by the charter of the Royal Albert Hall Corporation, it is especially provided that the building should be used only for

objects connected with science and art. We have already been listening to the effects of one of the exact sciences, that of music, which has given us infinite pleasure. Whether you will be prepared to listen so patiently to the medical speeches that will be delivered, I, for one, am not ready to say. As a politician, I feel rather put in a difficulty in having to discourse even for a moment on a scientific subject. At all events, I will not infringe a rule that has been laid down by the corporation, but I will confine myself as shortly as possible to what may be called the scientific aspects of the question. Now, nobody will deny that it is an eminently unscientific thing to get drunk. It cannot be pleaded for drunkenness that it adds to science in the slightest degree. In truth, the fact is, that a large dose of alcohol, scientifically speaking, immediately damages and deranges the bodily, and then the mental, machinery. It certainly stupefies the senses; it blunts the moral perceptions; it weakens the active physical and mental faculties; it produces constantly obliquity in the vision, and paralyses the motor nerves. It brings about morbid and unhealthy conditions of the body, and stupefies and paralyses the action of both mind and soul. It, in fact, by constant habit, induces premature decay by atrophy, and reduces human beings to a level eminently unscientific, and below the level of the learned pig! In fact, I may say that no quadruped of his own free will would put itself—not even the monkey—through such an unscientific process as that of exceeding in alcohol. Therefore, we may say that looking at drunkenness—it is an eminently unscientific habit. But let us look, on the other hand, at sobriety; sobriety which is like the handmaid of science—philosophy. Sobriety, instead of thickening and injuring the quality of the blood and the muscular fibre, purifies the blood and strengthens the will and the muscular powers. Moreover, it improves the mental powers; it enlarges the natural affections; and it raises the body from that low and

comparatively feeble and humble condition, in which we know it best, into a higher and more spiritual sphere, and therefore, I should say, that sobriety in itself is eminently philosophical. And what does philosophy mean? It is derived from two simple Greek words, “loving” and “wisdom,” and if there are people in this country who, above any others, love wisdom, they are the temperate people of England. I do not pretend to say that all philosophers, or all men of science, or all politicians, are abstainers, but abstainers are certainly philosophers, whatever other people may call them. No one will pretend to say that any philosopher has made any discovery, or made any advance in art, which will be a benefit to mankind while he was in a state of inebriety. No astronomer, contemplating the starry heavens, has ever discovered any of its wonders while his mental vision has been obscured by alcohol. Therefore, I say again, that the abstainer and the temperate man are eminently fit to rank with the highest philosophers. But again, no soldier has ever achieved a great victory, and no sailor (such as some of you boys will be) is fit to be trusted with the helm, even on a calm day, if he be an intemperate man. I came across a great philosopher once in Lancashire who told me that the whole of his success in life was based upon the purest and most scientific philosophy. He told me that he had never contributed anything to the excise since he was seven years of age, and I taunted him with being rather a shabby man—he not bearing his due share of the taxation. “Well,” he said, “I left off tea, and coffee, and sugar (which is not taxed now), tobacco, snuff, wine, ale, beer, and spirits, and I drink nothing but milk-and-water”—and yet he was far from being a “milk-and-water man.” He was one of the most solid, thick-set, active-minded men I ever met. I will say for him, as I would say for many men in the same way—men who have deliberately gone through a long course of self-denial for the sake of their fellow-men and their country—

that he and they are true philosophers. I will not detain you, ladies and gentlemen, any longer. I might be wandering away from this very imperfect scientific aspect of the question into, perhaps, a political strain, which we are bound by the rules of this corporation to avoid.

DR. RICHARDSON'S SPEECH.

Dr. B.W. RICHARDSON, F.R.S., said: Mr. President, ladies, and gentlemen, I will undertake to say that a more striking proof of the force and vitality of abstaining temperance has never been witnessed than the proof that is afforded of it by the presence of this great assembly. The assembly is so large that it becomes an experiment to address it, and I must endeavour for a few minutes only to carry out that task. If, therefore, what I shall say may seem abrupt, you must forgive the mode of expression as enforced by the circumstances. I am, I believe, expected to put forward a few passages relating to the scientific position of the total abstinence question, and the relationship of that position to the experience of daily life. Scientific evidence and every-day experience, how do they tally in respect to total abstinence from drinks containing alcohol?

At once, then, the grand truths taught by science on the subject are now all clear to this effect, that the old belief of alcoholic drinks being necessary as foods for the wants of man is utterly untenable. No verdict rendered from nature was ever more explicit. When, in fact, the true intention of foods is scientifically set forth, the verdict against alcohol as a food is only perfectly expressed in the words of confession, as clearly as ever poor sinner spoke them, viz., that it has done those things it ought not to have done, has left undone those things it ought to have done, and there is no health in it.

Let me take a few illustrations.

We know, generally, that a good food is one that will keep up and maintain the vital heat of the body. We know now, scientifically, that the effect of alcohol on the body is to re-

duce the vital heat, and that in its baneful action it runs hand in hand with cold. We generally know that a proper food ought to nourish and sustain the body during exposure to extremes of heat. We know now, scientifically, that alcohol renders the body more prostrate during exposure to heat, and that taken in excess under such exposure it is an immediate cause of danger to life. We know, generally, that a proper food ought to maintain the animal activity, ought to enable the muscles of the body to perform good work, and to endure good work during long intervals of time. We know now, scientifically, that alcohol reduces the muscular power, and though it may for a passing moment give a flash to the muscular energy, it lessens the value and shortens the duration of the labour. We know, generally, that a proper food ought to build up the worn-out tissues of the body, all those parts which in the physical wear and tear of life are constantly demanding renewal. We know now, scientifically, that alcohol is not constructed to play any such a part; that if it adds any substance to the body, that which is added is obstructive to animal motion—weighty and hurtful; and we know further on this point that under the continual influence of alcohol, all the active tissues are damaged and made inactive for their work. We know, generally, that a proper food should sustain evenly and effectively the physical nervous power, so that the muscles shall at due seasons be called by the nervous stimulus into natural activity. We know now, scientifically, that alcohol wildly exalts and then fatally depresses the nervous power; that as a man under its active influence first becomes excited, then depressed, and finally helpless and unconscious, so a man under its continued influence first becomes profligate of his life, then weak, and finally paralysed, and prematurely dead. We know, generally, that a proper food ought to sustain and support with evenness of judgment and wisdom the mental power. We know now, scientifically, that al-

cohol excites the mental power unduly, then depresses it into melancholy, and so often brings it to complete aberration, that in some of our institutions for the insane as many as forty per cent. of those who enter per year are made to enter from this one simple cause alone. These, ladies and gentlemen, are some of the salient facts which science has disclosed respecting alcohol. These facts have never been invalidated by evidence of a similar painstaking and decisive order. In hopelessness of disputing the facts the narrators of them have been attacked, but the facts remain as ever.

These are some of the evidences of science on the alcohol question. The next question—and it is the only other question I shall notice—is, how do the evidences tally with the experiences of daily life? If the evidences of science crossed the daily experience, however much trouble they may have cost to collect them, I should say, hold them in submission. They must be wrong, because, after all, daily experience is science also, and if what is obvious to every one on strict inquiry is opposed by one or two men in the name of science, the chances are that the many are right and the one or two are wrong. Fortunately, in our case science and experience ring out together the same note. The ancient man of science, who said, “Wine is a mocker,” tells the same story as the man of science of to-day, and

“Then it chimes,

When the old words strike on the new times.”

Let me make in order the comparison.

Do you want common experience to tell you which can bear up best against extremest of extreme cold, the man who abstains from alcohol or the man who seeks succour in it? Knock at the door of the late Arctic expedition and ask the question. Inquire within for the seaman named Adam Ayles, and form your own judgment! Do you want to know from common experience who can

bear up against extremest of tropical heat, against sunstroke, against apoplexy, against liver disease? Look to those who have lived in our Indian Empire, who have travelled, laboured, fought there, and form your own judgment! Do you want to know from common experience who can bear most physical fatigue, those who abstain from alcohol or those who seek strength in it? Put the question to the men who do the great feats of strength—not altogether wisely, perchance, but still who do them—and form your own judgment; or do you want to know how long men can survive on water alone under sleepless anxiety and persistent unrest? go to that Welsh mine, where, for days upon days, and nights upon nights, men were entombed with water and without alcohol, and form your own judgment! Do you want to know from common experience whose vital tissues are best conserved, the tissues of those who abstain from alcohol, or of those who try to live with it? Turn to the records of the Registrar-General, and from them inquire of the sellers of alcohol, why they die at the rate of one hundred and thirty-eight to one hundred of the whole population. Or turn to the records of life value in insurance, and inquire what it means that those who take alcohol show a mortality of seven per cent. under the theoretically-calculated value of life, and those who abstain a mortality of twenty-four per cent. below the average, and then on both points form your own judgment. Do you want to know from common experience whether those who use alcohol as a food, or those who do not use it suffer most from nervous injury? Knock at the doors of our great hospitals for the nervously afflicted, and ask how many of the paralysed there have been total abstinents from alcohol, how many are merely the victims, not more nor less, of that food? Knock, inquire, learn, and form your own judgment! Lastly, do you want to know from common experience whether those who use alcohol or those who abstain from it, are most subject to mental destruc-

tion? then to the asylum go, look at the forty per cent. directly and indirectly sent there by the necessity to life, as some call alcohol, and form your own conclusions there!

When all is done, you will, I think, if you are honest in your desire to arrive at truth, arrive at the only possible conclusion, that scientific learning and common experience in this case stand side by side, and declare with one voice the one truth that alcohol is not necessary for the wants of man, nor of any other thing that lives.

From these studies rise you all, ready still to fight to the death this enemy of mankind, and as you wage the war, fail not to declare the beauty of your cause. Sing of Temperance as she is to you, a something divinely hopeful, divinely holy. Declare of her as the greatest of all wise men declared of Wisdom:—"Length of days is in her right hand, and in her left riches and honour. Her ways are ways of pleasantness, and all her paths are peace."

DR. HESLOP'S SPEECH.

Dr. T. P. HESLOP, F.R.C.P., Physician to the Queen's Hospital, Birmingham, said: Ladies and gentlemen, I beg leave, on the part both of the public and of the profession to which I belong, to take this opportunity of tendering thanks to the accomplished physician who has just addressed you, for yet again bearing his testimony to the wrong of alcohol, and to the benefits of totally abstaining from it. Dr. Richardson has done more service during the last few years to his fellow-citizens by his ardent speeches and his admirable writings on this subject than probably any person living in this country. It is difficult for any one to glean anything from a field which has been reaped by Dr. Richardson; but he is as kind as he is able, and, like Boaz, in one of the most charming of Hebrew traditions, he has doubtless purposely let drop something from the rich sheaves in order that we who come after him may still glean something for you to listen to. Now, to say

that I endorse everything that Dr. Richardson has said would appear almost presumptuous; but still, I do endorse it. I want for a few moments to bring under your notice some of the moral aspects of temperance; for observe, I am still within the line marked out for us to-night, for physical science, moral science, social science, all tell the same consistent story about alcohol—all branches of knowledge being mutually consistent. They are not mutually repulsive; they support and sustain one another. Now, what is the circumstance in reference to the chronic effects of alcohol which has most struck me? You know that under the immediate influence of alcohol a man is reckless of all prudential maxims, sees no danger when danger is present, forgets what he owes to society and to himself, and blindly does deeds of violence. But important as all this is, it is far less important than the chronic influence of alcohol upon him as a man. What is the condition of the intemperate man at this moment when he is not under the immediate influence of alcohol? The brave man becomes a poor coward, afraid of his own shadow, imagining all sorts of dangers—dangers to his own person and to his property which may never appear. He goes through the world, not bravely combating the world, but timidly yielding to every pressure that is made upon him. Hence, if it be only that a man should maintain his bravery, he should endeavour to give up the drinking of alcohol. Now, what is the effect of alcohol upon the general mental observations as daily taken in small quantities. Some dozen years ago, a medical man, an abstainer from childhood, who was a very hospitable man, said to me that it was one of the most interesting matters of observation to him at his own dinner-table to notice how soon after the smallest quantities of alcohol, quite within the limits of what is ordinarily styled moderation, his friends began to speak like fools. The truthful man began to exaggerate, the modest man to boast, the pure man began to take pleasure in listen-

ing to conversation which ordinarily he would have been the last to listen to; and this, mark you, ladies and gentlemen, not under those doses which are considered intemperate doses, but under those small quantities which are deemed to be perfectly compatible with the self-possession of the person. If you will only remember this, I trust you will have an additional argument offered to you for abstaining from these noxious fluids—I refuse to call them drinks, even in the smallest quantity. Now, ladies and gentlemen, it is an old maxim of a very great Latin author, “Avoid the beginnings,” but if there be any human passion to which this is applicable more than to another, it is to the passion for drinking, and this for a reason that may not possibly strike all of you at first sight. What is that reason? If we leave out the passion for accumulating money, and if we now limit our observation to those grosser passions, what is the lesson we are taught? Happily for man, as he becomes older these passions die away, and he then boasts of his virtue, where it would be more just and becoming if he spoke humbly of the decline of his passions; but this passion for drink, unlike every other gross passion to which man is subject, grows with his growth, increases with his years, becomes often more developed in old age than even in youth, so that at last we find this unhappy remnant, this fatal and fearful fire still burning amid the wreck of his moral and physical nature. This, therefore, is the reason, ladies and gentlemen, why the beginnings of this fatal vice should be so strenuously kept down. But another aspect I want to give you before I resume my seat, which I also deem of very much interest in reference to the drinking question. I do not think any of the numerous writers or lecturers on this subject have given sufficient attention to the large amount of drinking which is involuntary drinking—I mean the drinking which a man indulges in under the stimulus of the public-house, which he had no intention of

indulging when he entered that house. Let me explain myself. Many people, as I have often had occasion to observe as a magistrate, come before you with obvious penitence, with extreme perplexity and vexation confess that they have been caught drunk, and are prepared to protest that when they went to the public-house they had no intention whatsoever (and declared that intention perhaps to their wives) of what is called “exceeding.” Now here I see the very strongest argument that can be adduced in favour of the restriction of places where such drinks can be obtained. As a physician lately said to his class of students: “The effect of these remedies (which he rightly calls narcotics rather than stimulants) is to stupefy (as Sir Harcourt and Dr. Richardson have said) the moral sense, so that one glass makes a man forget the tears of his wife and the miseries of his children; a second glass makes him reckless of any decency; and after the third and fourth glasses he lies a helpless victim in the hands of the publican, he himself not having intended when he went to the house ultimately to lie upon its floor a helpless drunkard.” Hence, ladies and gentlemen, we ought all to carry on this great contest on the side of temperance. We are doing something eminently conducive to the benefit of our fellow-creatures and to ourselves; for it is the drinking of these fluids or the non-drinking of them which is the difference between health and disease, between long and short life, between an impaired existence and an existence which is adequate to the demands upon it. I implore you, therefore, ladies and gentlemen, to adhere to the cause which you have taken up. You are engaged in one of the most worthy of all efforts which requires the utmost persistency of purpose, and be assured that sooner or later you will form so strong a public opinion on this subject that legislative action will become extremely easy.

Mr. W. J. SQUARE, F.R.C.S., Surgeon to the South Devon and East Cornwall Hospital, Plymouth, being absent, portions of the following

paper were read for him by Mr. W. R. Selway.

MR. SQUARE'S ADDRESS.

I would that I had the precious gift of eloquence, and a voice like the sound of many waters, that both might be dedicated to the noble temperance cause, and to the promotion of the objects and aims of the festival of the National Temperance League held this night. Possessing neither, and unable to attend personally, I still wish to express my entire accord and sympathy with the objects of the festival, and in a few remarks to endeavour to expose some of the dire results of intemperance upon the physical, moral, and intellectual constitution of man. From my own experience, from a perusal of the reports of the National Temperance League, and from the Excise returns of the United Kingdom, it is evident that intemperance and the excessive and pernicious use of alcohol is still on the increase in Great Britain, and this in spite of all the great efforts of individuals and societies to diminish it. This fact is appalling, and demands renewed inquiry, both into the cause of the increase of intemperance and the failure of the efforts now in operation to check it. Happily, this inquiry is widespread and still spreading. A few years ago, the promoters of temperance were few in number, were for the most part deficient in social influence, and were branded by the world as wild enthusiasts, or even fanatics. All this is changed. Men of science and literature, the clergy and laity of the Church of England, the great Nonconformist bodies, and large numbers of the medical profession are profoundly impressed with the vital importance of the question in its relation to our social and national life. The physiological action of alcohol, its use as an article of diet, and also its medicinal value, have been of late carefully studied by Drs. Parkes, Anstie, Brunton, and other accurate observers; and Dr. Richardson, in his recent Cantor Lectures, has in a most instructive way popularised his own investigations and those of kindred

observers. I shall therefore pass at once to a rapid review of some of the poisonous and morbid conditions which are caused by alcoholism. It is certain that those who indulge in alcoholic drinks create for themselves such a physical and intellectual demoralisation, that all diseases under which they labour, whether spontaneous or traumatic, are tinged, and even of necessity invested, with a peculiar and special gravity. Dr. Magnan, a recent French writer who has studied the subject profoundly, divides the various forms of alcoholism into four classes, namely:—1. Drunkenness. 2. Alcoholic delirium. 3. Delirium tremens. 4. Chronic alcoholism, with its two ordinary terminations—dementia, and general paralysis. An over-dose of alcohol produces excitement, happy thoughts, animated speech and gesture, which are soon followed by confusion of ideas, incoherence, illusions, and stupor; the countenance lacks expression, the person sinks into a comatose sleep; the temperature of the body, as measured by the thermometer, has fallen. Compare these symptoms with the effects of alcohol on a dog, and you will find them similar. The animal, at first excited, runs hither and thither, fawns and is affectionate, soon becomes stupid, the temperature of the body falls, he sinks to the ground, relaxed and paralysed—he is drunk! The immediate effect of an over-dose of alcohol is thus similar in the man and the brute. The poison has reduced them to the same level. When the action of alcohol is prolonged by frequent excesses, the individual becomes irritable and restless, he no longer sleeps, he is the prey of illusions and hallucinations, and speedily passes into a state of alcoholic delirium. This delirium, sometimes gay, is oftener painful and distressing. The delirious alcoholic is terrified, anxious, aggressive, combative, or suppliant. The ordinary occupations of health become the subject of hallucinations, which are for the most part horrible and painful. The insanity, often melancholic, is more frequently maniacal and violent. The sufferer

thinks himself in prison, accused of horrible crimes, is betrayed, is gloomy, suspicious, suicidal, or homicidal. He receives insults, he sees robbers, soldiers, policemen, spies; he becomes insulting and furious, and commits acts of violence and outrage. His senses are impaired and disturbed. Vision is obscured, taste and smell are perverted, the sensibility of the skin is either excessive or dull, tremors affect the muscles of the lips and limbs, the gait is uncertain, often staggering. The prolonged action of alcohol upon animals gives the same results—thus after many days of intoxication the dog becomes restless, sad, susceptible, starts on the least noise, runs in great fear to the darkest corner of the room, snaps at those who are near him, and utters loud cries of distress. These symptoms increase; he gets restless at night, barks furiously without provocation, groans plaintively, growls without cause, and bites in the air at imaginary objects. At the end of the first month trembling of the limbs commences, and soon implicates the muscles of the neck and head; these tremors intensify after each successive dose of alcohol. Thus we see that the symptoms of alcoholic poisoning are identical in man and the dog, and we shall also find by-and-by that the morbid changes observed after death are similar. To pursue the march of alcoholism in man still further, the subject of simple alcoholic delirium, either from an excessive dose of the poison, or from great mental harass, falls into a febrile condition, which, added to his previous delirium, constitutes true delirium tremens or alcoholic delirium with fever. In this condition his delirium becomes exaggerated, his sleeplessness more urgent and constant, and his danger is intensified by the presence of fever; in this stage of poisoning many persons die, death occurring from one of many causes, as exhaustion or lesions of the nervous system, specially observable in the brain. When the dog has been under the continued influence of alcohol for about forty days, he also generally becomes the subject of de-

lirium tremens. In addition to the illusions and hallucinations already described, other phenomena exhibit themselves. Thus, besides staggering and paralysis, trembling of the paws commences, which soon extends to the limbs; after a time those tremors increase in extent and intensity, and are so violent as to give shocks to the hand of the observer; often the oscillation is so intense as to simulate the shaking palsy. This condition usually terminates in coma and death. When in man the alcoholic action is still more prolonged, or even at an earlier period in those who are predisposed by hereditary antecedents, another form of the disease is assumed—chronic alcoholism. In this stage the poison is the same, but its persistent use has changed the person into another man; a more profound action is produced, the nutrition of the individual is altered throughout. The system has undergone fatty degeneration, and dementia is imminent. The muscles and glands are charged with fatty matter, and the liver is either fatty or shrunk and hardened. The intellect is vastly blunted. Apathetic and stupid, he neglects or ill-treats his wife and family. He is a prey to sensual alcoholism, and soon is the victim of epilepsy or paralysis. In the latter stages his intelligence is a void; he is dement, imbecile, fatuous. To what a fearful degradation has the “noblest work of God” descended! Chronic alcoholism also ends in general paralysis. To the fatty transformations of tissue a hardening, or sclerosis of various structures, as of the brain, spinal cord, kidneys, &c., is superadded. The patient is ambitious, has exalted ideas of himself, of his appearance, riches, power, and strength; he becomes agitated, tremulous, is the subject of epilepsy, gradually weakens in mental and muscular power, hesitates in speech, trembles more and more, his instincts and appetites fail, his strength declines, he is paralysed, and dies worn out and comatose. I have compared the action of alcohol upon man and his faithful companion the dog, to show that alcohol is a *true poison*,

that it produces kindred effects on man and animals—that it is progressive in its action, that it inevitably destroys the intellectual, moral, and physical condition of man, and that the diseased changes of structure which result from its undue and prolonged use, are alike in man and animals. Again, it is the fertile source of crime and insanity. It fills our gaols and our lunatic asylums with its wretched victims—and let me also with emphasis add, that its subjects are the parents of an offspring enfeebled in body and mind, of children whose nervous system is defective, irresolute, and feeble, and who are from hereditary taint often true dipsomaniacs, *i.e.* diseased persons who get drunk whenever a drunken impulse assails them.

Can we wonder that thoughtful, earnest men and women, out of every class of society, are awake and in arms on this momentous subject? Can we wonder that the House of Peers has lately deliberated with great anxiety upon this all-important question? Can we wonder that society is profoundly agitated by its knowledge of the certain fact, that drunkenness and alcoholism is fearfully on the increase among women, aye, and among well-educated women! This latter fact overwhelms me with horror. Who forms, moulds, directs the moral and religious aspirations of the tender child, and of ductile youth? The mother! Oh, that word mother, interwoven with the very fountain and river of our life! A word so sacred, that one can never think of that dear loved one who has passed away, and we hope has stamped a holy virtuous impression upon our whole life, without sighing—dear mother! If we can arrest, or even diminish, intemperance among women, we shall do an undying service to our poor frail humanity.

Brethren and sisters, let us try. Let us ask God to help each one of us to self-denial—remembering that although only units in the creation of our loving Father—still that the ocean of life receives a circling, widening wave from every pebble which is dropped upon its surface, and that our individual influence may circle and widen until large results flow from a tiny effort.

Mr. SAMUEL BOWLY: I wish to say on behalf of the National Temperance League that we entertain the most profound conviction that without the disuse of alcoholic liquors as an article of diet in society, we never can get rid of this terrible evil of intemperance, and, therefore, we endeavour as far as may be to get those classes who set the customs and fashions of society, and keep them up, to try and unite with us in altering them throughout the length and breadth of the land. We rejoice exceedingly that we have now men of eminent position both in the church and in society who are giving their aid to this great cause, and I merely rise to express the gratitude of the National Temperance League to Sir Harcourt Johnstone for being with us on the present occasion. Men of his high character and position can't fail to exercise a large influence on this great occasion. As to the experience and common-sense of the matter, they were settled long ago in the minds of some of us when we began this work forty years ago, and now I rejoice that, through the blessing of God, at seventy-five, I am here to endorse the labours of those forty years—and, surrounded by so many of my fellow-workers, I would say, Let us take courage and go on in our noble work, and some of us may yet live to see not all the victory, but at least one great battle gained, and may God bless us in our work!

THE TREATMENT OF HABITUAL DRUNKARDS.

THE Committee of the British Medical Association on Habitual Drunkards, presented their Report on Friday, 10th August. It was read by Dr. Eastwood, of Darlington, as follows:—

“During the last year considerable progress has been made in the Habitual Drunkards’ movement.

“An Association entitled ‘Society for Promoting Legislation for the Control and Cure of Habitual Drunkards’ has prepared a Bill which, as revised and adopted by your Committee with scarcely any alterations, has been introduced into the House by Dr. Cameron, Member for Glasgow, who has warmly taken the matter in hand.

“Considerable delay arose in preparing the Bill and securing a member to introduce it. This delay prevented the Bill from being read a second time during this busy session. Several Members of Parliament have promised to support the principle of the Bill and its second reading. In its favour, seventy-seven petitions have been presented to the House of Lords, and ninety-five to the Commons, including petitions from some of the branches of the Association.

“To secure a successful reading of the Bill the Association should endeavour to influence Members of Parliament and other influential persons, and to distribute information on the subject.

“The movement being now fairly before the country, by the introduction of a Bill and support of some influential members, it remains for our Association, who originated the movement, to press it on to a successful issue. The Committee ask, therefore, to be re-appointed, and suggest that each local branch be represented in the Committee by its secretary, or one or more of its members.”

MR. BERKELEY HILL (London) proposed, Dr. BORCHARDT (Manchester) seconded, and it was unanimously resolved—

“That the report of the Committee appointed to obtain legislative restriction for habitual drunkards be received

and adopted, and that the Committee be reappointed as follows: Alfred Carpenter, M.D.; S. S. Alford, Esq.; G. F. Blandford, M.D.; W. Cadge, Esq.; J. W. Eastwood, M.D.; B. Foster, M.D.; W. C. Garman, Esq.; John Gay, Esq.; C. Holthouse, Esq.; C. Macnamara, Esq.; H. Monro, M.D.; G. W. Mould, Esq.; R. H. B. Nicholson, Esq.; A. P. Stewart, M.D.; R. Farquharson, M.D.; and E. H. Vinen, M.D.”

A most interesting and useful discussion took place in the Psychology Section of the Association, on Wednesday 8th August.

Mr. G. W. MOULD, of Cheadle, read a paper in which he especially disclaimed the intention of being antagonistic to the efforts of any section of temperance reform, and paid a high tribute to the zeal and power of the advocates both of moral suasion and legislative enactment. The paper generally was in favour of the establishment of retreats or institutions for the special treatment of habitual drunkards, and advocated compulsory detention under magisterial supervision. His experience in charge of a public hospital had been such that he felt the absolute necessity of a short comprehensive Act for meeting the necessity which affects all classes of society. Mr. Mould concluded by moving the following resolution:—

“That it is the opinion of the psychological section of the British Medical Association that legislative action is imperatively necessary for the treatment of habitual drunkards, and the object would be best effected by the establishment of distinct institutions for this treatment.”

Dr. NORMAN KERR then read the following paper on the same subject:—

That prompt and effectual remedies for our national intemperance are urgently called for all are agreed. The terrible extent of this great evil in all classes, and its recent alarming increase among women in every position in life, summon us as physicians

and as patriots to a combined and determined attack on this

“The mightiest of our country’s foes.”

The contention that 73 per cent. of pauperism is caused by drinking has recently been disputed, on the ground that a committee of the House of Commons has reported 64 per cent. of parochial relief as arising from disease; but the two statements are quite reconcilable, inasmuch as the greater part of the diseases prevailing amongst both indoor and outdoor paupers have their origin in alcoholic indulgence. My own experience, both in country and town practice, has been that two-thirds of all my patients, rich as well as poor, have been indebted to drinking for either the onset or the recurrence of their illness. And every day’s experience confirms the accuracy of the conclusion to which I was long ago driven, that drink is directly the cause of 75 per cent. of pauperism, and both directly and indirectly of 85 per cent. The mortality from the abounding intemperance seems to me to have been very much understated, for, after careful and elaborate research, I am compelled to believe that at least 100,000 human beings die every year in this country from the direct effects of alcoholic drinking. In addition to this mass of pauperism and enormous loss of life, close on 80 per cent. of our crime and nearly one-half of our insanity are at an annual cost of nearly £150,000,000 for the mere price of the liquor, the product of

“Our heavy-headed revel east and west.”

Were it our business now to discuss the great question of the cause and cure of the intemperance so unhappily prevailing throughout the land, I would not hesitate to give utterance to my conviction, that no remedies falling short of the general adoption of individual total abstinence and the enactment and successful enforcement of legislative prohibition of the liquor traffic will be of any avail. But the subject now under consideration is the appropriate treatment to be applied to a limited number of the victims of alcohol, and though this portion of

the vast area of the evil is but a small part of the whole, it is yet important and urgent enough to demand our more serious and undivided attention. It has been calculated that there are 600,000 drunkards in this kingdom, and I believe this is under the actual number, but it is exceedingly difficult to arrive at an accurate estimate of the actual number of those habitual drunkards or dipsomaniacs whom any system of compulsory detention could affect. A highly-esteemed provincial practitioner, in an amicable public controversy with myself, recently stated that he believed the dipsomaniacs amongst us numbered only about 1,000, but my own observation and inquiry lead me to believe that 30,000 would be nearer the truth. It is extremely difficult, too, to define the term “habitual drunkard.” About some cases there can be no doubt. One woman, with whose case I am personally acquainted, was taken to the police station or sent to prison, or elsewhere, for 241 separate acts of drunkenness in a period of twenty-nine years. Another was convicted of drunkenness 107 different times, and every drunken attack was accompanied by the stealing of a tub. She was a washerwoman. Akin to this modern “tale of a tub,” was the sad story of a woman, who in an intemperate career extending over twenty-one years, was 137 different times in prison, and who finally was drowned, nearly every outbreak being associated with the smashing of windows. A habit-and-repute male drunkard is recorded to have been sentenced to transportation for the seventh alcoholic theft of a Bible, and it is said of one inveterate female toper in a great northern city, the greater part of whose life had been spent in a certain prison for drunkenness, that when in an occasional fit of spasmodic sobriety, and therefore freedom, she happened to pass the building thus honoured by her patronage, she was invariably heard to involuntarily warble the plaintive air of “Home, sweet home.” With the immense number of excessive drinkers who attend, more or less efficiently, to their business during the

day, and confine their intemperance to regular nightly intoxication, we have at present nothing to do. Neither do we propose to deal with the ordinary habitual or occasional drunkard. But when the alcoholic poison has so paralysed the will, dimmed the intellect, and deadened the moral sense, that the unhappy victim seems to have neither courage to strike a blow for freedom nor power to resist the apparently irresistible, uncontrollable, insatiable craving for drink, we have that phase of habitual drunkenness which, in its utter helplessness, so powerfully appeals to us for rescue by the strong arm of the law. Such an one may be truly described in the language of Shakespeare as "a man that apprehends death no more dreadfully but a drunken sleep; careless, reckless, fearless of what's past, present, or to come; insensible of mortality and desperately mortal." For practical purposes Mr. Dalrymple's definition of an habitual drunkard as one who, from habitual intemperate drinking, is dangerous to himself and others, or who is incapable of managing his affairs, is sufficiently clear and comprehensive. Such, then, are our habitual drunkards. What are we to do with them? Some reply, "Drunkenness is a vice. Let them kill themselves; why should they not? and the sooner the better." How such an answer could be given, how such a line of conduct could be defended in this the nineteenth century of the Christian era, is utterly beyond my comprehension. Let the beginning of the hapless victim's intemperance have been in thoughtless abandonment to a dangerous pastime, in selfish indulgence in a vicious habit, or in criminal dalliance with an unlawful pleasure, as he crouches at my feet, and with palpitating heart and quivering tongue implores me to save him from himself, if I could turn coldly away and bid him go die and make a speedy ending on't, I could but look upon myself as—

"A stony adversary, an inhuman wretch,
Uncapable of pity, void and empty
From any dram of mercy."

It may be in strict accordance with the stern decrees of justice, though I doubt it, to leave the unhappy victim to his fate and raise not a hand to stay the arm upraised to bear the poisoned chalice to the mouth—it may be just, though I more than doubt it, for those who, with a healthy brain and strong will, aided by intellectual, moral, religious, and social restraints, have been preserved from falling under the sway of that devouring appetite to which a diseased brain, a feeble will, or a hereditary predisposition through the poisoned body and brain of one or both parents have rendered others an easy prey, to pass by on the other side and leave the drunken slave, with no hope but the grave, to his chains, his wretchedness and his despair. But is it right? Let us treat the despairing captives of alcohol as we ourselves have been treated—let us deal with them as we have been dealt by—let us temper our justice with that compassion to which we owe so much—let us be just, but let us, too, be merciful.

"Why, all the souls that were, were forfeit
once;
And He that might the vantage most
have took,
Found out the remedy. How would
you be
If He, which is the top of judgment,
should
But judge you as you are? Oh, think
on that,
And mercy then will breathe within
your lips,
Like man new made."

But it has been urged that the cure of the habitual drunkard is hopeless. Were it so, the enterprise is yet lofty, the undertaking noble. Could we do no more than snatch the victim for a time from his persecutor and restore him to tolerable health and strength, to such health and strength that if he only keeps the enemy at bay by totally abstaining he will be permanently cured, we should achieve something well worth trying for. The difficulty of an undertaking is no reason why we should not attempt its accomplishment, and, hard

though the task may be, we have much to encourage us. The possibility of the permanent reformation and cure of habitual drunkenness has now been placed beyond dispute by a great company and cloud of witnesses. It is true that the number of permanent cures by inebriate reformatories has been greatly exaggerated. I have personally inspected many such establishments, and have carefully examined the records of most of the public efforts in this direction in Britain and elsewhere, and I have been unable to make out, in most cases, more than 30 per cent. of male permanent cures, and only about three per cent. of females. Dr. Day, of the Washingtonian Home, in Boston, has during the last twenty years had nearly 7,000 drunkards under his care, and has been very successful, but the effort which has met with the greatest success has been that originated and still carried on by Mrs. Charles Clayton, at Tottenham. There was a time when I all but despaired of the reformation of any female inebriate, but during the last two years I have known of many instances, and I am truly glad to be able to state that the philanthropic and devoted lady I have just referred to can thankfully record, from continuous correspondence with her former charges, sixty per cent. of females cured. Only a few months ago a magistrate's clerk in the metropolis is reported to have declared, in the course of a trial involving the character for temperance of one of the witnesses, "everybody knows that teetotalers are nearly all reformed drunkards." Were this true it would indeed be a magnificent result, as it is generally conceded that there are some 3,000,000 of water-drinkers in the realm; but, though I fear we cannot claim anything like so great a triumph, I have no hesitation in saying that I am within the mark when I aver that a quarter of a million of human souls have in this country alone been raised from drunken death to abstaining life. In some of the middle and eastern States of America a most wonderful work is going on at the present time. Hundreds of thou-

sands of seemingly hopeless inebriates have taken the total abstinence pledge as the result of the labours of several reformed drunkards; and so marked has been the effect in the State of Michigan that a committee of both Houses of the Legislature has passed a joint resolution setting forth that the work has not only been followed by marvellous results upon individuals, families, and communities, but promises to greatly diminish poverty and crime, and the expenses of almshouses and prisons. I have myself known of the cure of what seemed to be absolutely and hopelessly incurable cases, and my own efforts in the cause of abstaining temperance have taught me that no case is utterly hopeless and wholly beyond remedy, and I will never despair of the rescue of anyone, no matter how shattered his nerves or how weak his resolves, or though he be—

‘A creature unprepared, unmeet for death.’

In the long roll of temperance worthies will be found the names of many a brand plucked from the burning, and no conqueror of ancient or modern times can boast of so numerous and glorious an array of hard-won trophies as the great total abstinence movement, wherever with true Christian fervour it has raised its triumphant banner aloft,

“Pointing the spirit in its dark dismay,

To that pure hope which fadeth not away.”

What, then, are we to do with the habitual drunkard? Cure him. The first condition of cure is complete and permanent abstinence. Some of the reformed may lose the old craving, but with the great mass the craving never dies. This vice nearly always leaves its sting behind, and the rescued victim must never again venture within reach of the tyrant from whose clutches he has so hardly escaped. I read in the newspapers recently that a clergyman who had been suspended for a time for intemperance, and who having in the interim become an abstainer, on his return to clerical duty celebrated a religious ordinance with unfermented and unintoxicating

wine. His ecclesiastical superior is said to have rebuked him, and forbidden him to use the same kind of wine again. I can hardly believe that such an extraordinary, and, I hope, illegal, step could by any possibility have been taken by an intelligent and respected English prelate, and I trust that the report has no foundation. But, whether true or false, it is incumbent on the medical profession, apart from all extraneous considerations, and simply in fulfilment of a professional duty, and as a mere matter of preventive medicine, to declare that no consideration of morals, of religion, or of social life, and nothing but the most urgent and unavoidable necessity in medical treatment, can ever excuse the offer of even the smallest quantity of alcoholic liquor to a reformed drunkard. I have known the old craving lie dormant for fifteen years, and then break out afresh in all its former intensity on the impulse of a single very minute religious dose. The old physical yearning, latent though it be, is ever ready to blaze up anew like a train of gunpowder on the application of a match; and we who have experience in the treatment of habitual drunkards, and have their welfare at heart, must insist that our treatment be not counteracted and the safety of our cured ones endangered by the administration, on any religious pretext and however guarded, of any of those artificial chemical alcoholic compounds which are the very cause of the evil we find it so hard to combat. And we need have less compunction in speaking plainly on this subject to our clerical brethren, seeing that we have now ample supplies of pure, natural, nutritious, and innocent unalcoholic wine expressed from the natural bottles provided for its preservation by Dame Nature herself—at once a valuable and refreshing medicine and a palatable and exhilarating beverage, a really good and wholesome creature of God, the genuine, unaltered produce of—

“Vines with clustering branches growing.”

Not only should the dipsomaniac ab-

stain; his family and friends, and all who have social intercourse with him ought to abstain, too, or he will not have a fair chance. No hospitable board should display the tempter before him, and no customs interpose temptations in his way. But more remains. A thousand licensed public allurements to drinking distract and torment him throughout the livelong day, and it were an easier and more rational course to keep the poison from the sot than to keep the sot from the poison. Habitual and occasional drunkenness both demand for their effectual diminution the total and immediate suppression of the traffic in all intoxicating drinks. Twenty years have elapsed since I first recommended a British dipsomaniac to emigrate to the State of Maine—a step which was followed by the happiest results—and a subsequent lengthened and intimate personal acquaintance with that State has conclusively shown me the efficacy of well-executed prohibitory legislation in the cure and prevention of habitual and all kinds of drunkenness.

But we are not yet in the halcyon days of abstinence and prohibition, and a large number of habitual drunkards are still under the heel of the oppressor, and resist all the efforts of religious, temperance, and Good Templar enterprise. What are we to do with this residuum? It was at one time the custom in this country to put the head and arms of the habituels through a barrel, and walk such incorrigibles round the principal thoroughfares. In Liverpool the names and addresses of those convicted of drunkenness have been published in the newspapers. In Oregon it is proposed to license the consumers at the uniform fee of a sovereign. In Salem a habit-and-repute toper may be declared a “common drunkard,” whom all publicans are forbidden to supply with drink. In other parts of America the liquor-seller is held liable at common law for the loss of property and life, and other damage resulting from the effects of alcohol sold by him to the drunkard; and in the State of Illinois, only a few weeks ago, a widow was

awarded £3,000 in satisfaction of a claim she had brought against a liquor-dealer for selling her husband drink, ending in his death on a railway. In some countries a person convicted of committing any crime while intoxicated was subjected to a double sentence. We punish the habitual drunkard by fines and short terms of imprisonment, as in the case of a female dipsomaniac the other day, who had cost her husband over £300 in fines, and who, when asked if she wished to communicate with him, replied that this was quite unnecessary, for as soon as he missed her he would know where to look for her. The most original attempt at a cure, however, is that practised by a Yorkshireman, who, having found the usual method of "punching" unavailing, hit upon the plan of painting his wife black when she was unconscious in one of her drunken attacks, and so efficacious was the remedy that she remained sober for the unwonted period of one whole month. Whenever she relapses again he applies the paint as before, and reports that it never fails to procure him the same period of domestic happiness. Only one course is open to us in the present state of affairs, and that is, after all moral means have been tried and found wanting, to lock the dipsomaniac up. Many an unhappy wife driven to desperation by an intemperate partner's maddening cruelty, has resorted to some improvised expedient to secure for him the blessings of involuntary abstinence, as in the case of a poor woman who, after doing all in her power to reform her drunken and violent husband, and failing to obtain his admission into any institution, took up a kitchen poker and broke his jaw in three places, as the only way she could think of to have him placed under medical care in enforced sobriety. The victims themselves see the need for restraint, and urgently ask for it, as often does a well-off cab proprietor in London who, when he awakes to find himself drunk, insists on a cab being called and at once giving himself up to the nearest police station as being "drunk and incapable;" and as lately did a young

woman, after thirty previous apprehensions for drunkenness, when being charged before a metropolitan police magistrate for attempting to commit suicide by hanging, she exclaimed, "I can't keep away from the drink. I have such a dreadful craving for it. I would like your worship to make me find sureties, which I cannot find, so that I may be kept in prison away from drink." A most distressing case presents itself to my memory. An amiable and accomplished lady, aged twenty-six, the wife of a devoted and excellent husband, has taken to drinking during the last few years. She is one of the victims to that most demoralising of all legislative measures—the Grocers' Licensing Act. It was long ere she sank so low as to enter a public-house, and was wont to purchase her weapons of suicide at the grocer's, and the railway refreshment bars. Everything that can be done has been done to save this poor unhappy worshipper of Bacchus, but in defiance of all she is daily drinking herself to the grave. Nothing more can be attempted for her under the present laws; but had we a Compulsory Seclusion Bill she might be separated from her destroyer for a season, with some glimmer of hope that one day she might regain character and self-respect. But this would be an interference with the liberty of the subject! Liberty for the subject to do what? To commit suicide, not so speedily, but as surely as by potion, steel, or cord; to harass, humiliate and disgrace home, family, and husband. This is not liberty, but licence; licence as hideous as liberty is beautiful. "O Liberty, Liberty, what crimes have been committed in thy name!" but never has thy lofty banner been subjected to so gross an insult as is offered in this miserable objection. Such a plea is a profanation of the hallowed birthright purchased for us by the blood and lives of our forefathers, and true freedom revolts at the degradation and the shame. However the habit of drinking may have originated, it has now, in such cases as the last I have narrated, and while losing none of its vice and criminality,

become a veritable disease, demanding the iron hand of restraint and the most tender yet firm medical care. The proposed bill, which has not yet been formally adopted by the new Association for Promoting Legislation for Habitual Drunkards, is somewhat crude, and embodies some objectionable proposals, such as the proposition to provide for the inspection of inebriate homes by a prison official. The periods of detention proposed are much too short, and other portions of the bill are too complicated for practical working. But there will be plenty of time for mature consideration, and the leading features shadowing forth the compulsory detention of habitual drunkards, the establishment with retaining powers of retreats, and the power to commit persons frequently convicted of aggravated drunkenness within a brief period, commend themselves at once to our reason and our goodwill. In the interests of society, an Act for the prevention of the generation of sickly, semi-idiotic, and weak-willed children, by the enforced seclusion of habitually-drunken parents, is imperatively demanded; and by the too numerous and despairing dipsomaniacs of both sexes and in all ranks and conditions of life such a measure would be as warmly welcomed as it is earnestly prayed for. But while we strain our utmost energies to the accomplishment of this desirable end, let us remember that prevention is better than cure. By an example of personal abstinence, and by public testimony to the utter uselessness and possible danger of all drinking, and by organised efforts to secure well-devised prohibitive legislation, we will at once lend a helping hand to the perishing drunkard, and save many a probable victim from the destroyer, a line of conduct as honourable to ourselves as it would be worthy of that profession whose highest mission is to help, to save, and to prevent.

Dr. EASTWOOD claimed to have had great experience in the treatment of dipsomaniacs among the higher and middle classes, and said that his treatment was of an ordinary tonic des-

cription, but that total abstinence from alcohol was a *sine qua non*. The principal difficulty was that patients did not usually remain a sufficient time to obtain the full benefit of his supervision. From very painful experience he had long felt the necessity for such a provision as that mentioned in the resolution; and he hoped they would pass it unanimously. He had treated many cases successfully, but he had to place them under care in private houses. On being asked his method of treatment, Dr. Eastwood said he placed them strictly under total abstinence, and preparations of strychnine, quinine, and iron were occasionally administered. Dr. Eastwood concluded by seconding the resolution moved by Mr. Mould, and it was carried unanimously.

Dr. PARKER, of Liverpool Borough Gaol, moved: "That it is the opinion of this meeting that the establishment of reformatory institutions for the treatment of drunken offenders for lengthened periods ought to be urged upon the Government." He said that, from his experience, short terms of imprisonment were utterly useless for the reclamation of the intemperate, and that for any good purpose periods of detention should be cumulative, and extend over from one to two years. The people thus detained should not have "first-class comforts," and the temperance public should not have to pay any part of the expense thus incurred.

Dr. MOORE, of Belfast Gaol, in seconding the resolution, spoke of one person under his care having been convicted of drunkenness upwards of 300 times. He thoroughly agreed with Dr. Parker as to the uselessness of short terms of detention, and said that patients should, in every case, be detained until cured, and that *detenues* "could earn as much as it cost to keep them, and ought to do so, it being, in fact, cheaper to keep them within than without." He had upwards of 3,000 prisoners under his attention per year, and he was strongly of opinion that the repeated short sentences were not effective upon the habitual drunkards. He recommended

a reformatory for such persons where they might be detained long enough to acquire strength to resist their foe. At present to the class who have been imprisoned frequently the gaol was no terror. He had noticed the young girl in for the first time listening to the clanging doors and locks with trembling limbs and tear-stained eye, but on the second and third visit all this had gone, and the penalty was no deterrent.

Dr. BRADDON, of Salford County Gaol, entirely agreed with Drs. Parker and Moore as to short terms of incarceration being worthless, and detailed the case of a man who had been 368 times in prison for drunkenness, his longest term not exceeding six weeks.

Dr. LALER, of Richmond Asylum, Dublin, said that as the crime of drunkenness was cumulative, the punishment ought to be cumulative, and sympathised with what had been before said.

Mr. S. S. ALFORD, London, hon. sec. of the Society for Promoting Compulsory Legislation for Habitual Drunkards, rejoiced at the motion so enthusiastically supported, as very much strengthening the hands of those who were working for legislation on this subject. He was thoroughly satisfied that in maintaining the institutions referred to the ratepayers need be under no extra expense, as the higher classes could pay at remunerative rates, while the labour of the other classes would certainly cover all costs.

Dr. ROGERS, of Rainhill Asylum, said he could not help thinking there was a good deal of "hollowness, humbug, and hypocrisy" about the whole discussion—for most of those present had been "feasting and enjoying the good things of this life" last night, and here they came to "talk with solemn faces about what should be done with their poorer friends who could not keep within the line." He very much questioned Dr. Kerr's statistics, that gentleman apparently having a "licence." He thought the "Grocers' Act" was a most beneficent one, as

it induced people to drink with their meals—instead of standing at the bar of a public-house. They all knew that if there was no drinking there would be no drunkards—but while we were talking about establishing these retreats for habitual drunkards, the drink-sellers were honoured and called to high places and every social distinction. There was no need to mention names, but his friend Dr. Parker would be able to recall at least one distinguished instance. In Liverpool, while they lamented the evils, they honoured the chief suppliers of strong drink by putting them into office. The present mayor was one of the largest liquor-sellers in the town, with means enabling him to give. The Art Gallery, of which much was said, therefore resulted from the debased habits of the people.

Dr. BEALES, of Congleton, merely with a view to afford opportunity for discussion, and from no particular interest in the question—moved, as an amendment, "That it is inexpedient for the section to give any deliverance with reference to alterations in the criminal law."

The amendment having been seconded, however, failed in its object to elicit adverse opinion, and was defeated at once. The original motion was then put, and carried by a very large majority.

The PRESIDENT, Dr. J. C. Bucknill, F.R.S., was then asked to express an opinion on the whole subject, but replied that the field was too wide for such summary treatment, and he was not prepared to go into the question thoroughly; still, while he yielded to no man in his abhorrence of drunkenness, and desired to see all done that could be reasonably accomplished for the cure of habitual drunkards, he considered Dr. Cameron's Bill one of the most stupid, impracticable, bungling, contradictory and ridiculous bills he had ever read, and very badly drawn up.

This called up Mr. ALFORD, who said the bill had been most carefully drafted by a committee of four—two barristers and two solicitors.

BREAKFAST TO MEMBERS OF THE BRITISH MEDICAL ASSOCIATION.

THE Annual Breakfast, given by the National Temperance League to members of the British Medical Association, was held at Manchester, in the Hall of the Young Men's Christian Association, on Thursday, 9th August. Nearly 300 medical men accepted the Committee's invitation, but a number were prevented from attending by the inclemency of the weather.

The chair was taken by Mr. Samuel Bowly, the venerable and venerated president of the League, and he was supported by Mr. W. R. Selway, Vice-Chairman of the Executive Committee, and Mr. Robert Rae, Secretary. Grace was said by the venerable Canon Bardsley, one of the Vice-Presidents of the League, and a most substantial repast was served up; after which

The CHAIRMAN said he would not occupy much time, but, as President of the National Temperance League, he was glad the meeting had been called, and was deeply grateful to the medical profession for attending in such large numbers to promote, if they could, a better understanding between that profession and those interested in the moral and social aspects of the total abstinence question. There was a time, he thought, when they, as total abstainers, were a great deal too dogmatic, and when they did not always conduct their advocacy with the discretion, even towards medical men and others, which was wise; whilst on the other hand, they had been looked upon as mere fanatics, wild, visionary, and extreme in their views. He hoped by these meetings they would come to a better understanding of each other, and he believed there would be found to be perfect harmony between the revelations of science and the moral and social welfare of the community. He certainly was not afraid of the developments of science. He himself stood as a fact of forty-one years of total abstinence, and now, when between seventy-five and seventy-six years of age, he could say that he possessed more strength and energy than he did twenty years

ago. Still they must not go by individual cases. The moral aspects of the question were undoubtedly the most important, and they must all admit that there was a tremendous evil in their midst. He saw forty years ago, and he believed it more emphatically to-day, that the only remedy for this great evil amongst the masses was an entire disuse of alcoholic drinks. He did not think they could possibly expect men placed in their position, often without education, and with a lack of moral courage, to keep within the bounds of strict moderation, when they found that educated men, and refined women, fell into this evil, although surrounded by far less temptations than the working classes. They proposed, therefore, the simplest and best remedy for this great national vice. He had found universally that the working man had said over and over again that it was far easier to keep out of the public-house and get rid of intoxicating drinks than to keep to the line of strict moderation. So far as his observations had gone, he found that total abstainers enjoyed better health, had happier homes, and made better servants in the capacity in which they worked than those who indulged in intoxicating drinks. Why should they teach the rising generation the use of intoxicating drinks? They had no inclination to intoxicating drinks; the desire for them was entirely an artificial appetite. They had Bands of Hope by thousands and tens of thousands, societies joined by children without any inducement scarcely on the part of the parents. Now, what taught children to drink? Why, simply the habits of society; and what trained society but the influential portion of the community? As a Christian man and a citizen it was, in his opinion, a great privilege to be able to set an example of perfect safety to all who were around him. Now, if he took a glass of wine he set an example to his family and servants to drink, and although it might not be dangerous for him, still it might be dangerous for

them. For the sacrifice he made forty years ago he had to be very thankful. In doing it he had not sacrificed any enjoyment, nor did he believe that the true intellectual enjoyment of man could depend upon indulgence in intoxicating drinks. Now these were the views they held, and they asked the medical profession to help them in this great work. They rejoiced to see how the Church had thrown itself into this great work of total abstinence, and what an impetus it had given to the movement; but he attached a great deal more to the influence of the medical profession than to that even of the clergy in advancing this question. He knew of no class of men who saw more of the terrible evils of intoxicating drinks than medical men; he knew of no class of men more generous, kindly, and humane than they; and himself and his fellow-abstainers only wanted the medical profession to understand how they could help on this great movement for the national welfare if they would only do what they could. They must all be aware that the administration and recommendation of intoxicating drinks in so many varied cases of disease and illness had been fraught with great danger and ruin to a large number of persons. They were deeply thankful that medical men were awakening to this question, and he hoped that in dealing with physical disease they would consider that there was something of higher importance, a moral disease which so often followed upon the recommendation and prescription of intoxicating drinks. He would not occupy their time, for it was not his intention, nor did he come there to force total abstinence upon them. He only asked them to give the question a fair consideration, discussing it fairly among themselves, for the more the question was discussed the more the truth would come out, and he trusted that their decision would be on the side of humanity, and for the social benefit of the country.

Mr. W. R. SELWAY thanked the medical men for their presence on behalf of the Committee of the National Temperance League, and said

they were exceedingly gratified to meet so many gentlemen who were engaged in such an arduous and important work throughout the country, and he would venture to say a few words to them. He would observe that, if it were true, as he had heard some eminent members of the medical profession say, it was the highest duty of medical men to teach, and their highest function to bring about the prevention of disease rather than its alleviation, he might venture to ally himself in some humble degree with the medical men, for he had the honour of being a member of a board in the metropolis which had carried out some of the largest sanitary works in the world. He might perhaps say he felt a great interest in everything that related to the prevention of disease amongst the people; and if it were true that it was the highest function to prevent disease, he thought he might venture to ask them to look very closely at the total abstinence movement, because it was needless to point out that intemperance was a grave cause of disease and the suffering it produced, as well as the other physical evils which resulted from it, were too well known to the medical profession to require reiteration by a layman. He might mention in passing, however, that in a short time there would be laid before the country some very striking statistics in relation to the effect of alcoholic drinks in the production of lunacy. He had been favoured with a look at the proof-sheets issued by the Lunacy Commissioners, and he thought the statistics they contained would astonish the people of Great Britain, although they might not enlighten the medical profession much, for those gentlemen who were in the habit of seeing the effects of this great evil must admit that the increase of lunacy was largely owing to indulgence in intoxicating drinks. It was simply on the ground of prevention that they asked the medical men to consider the importance of promulgating truths with regard to the influence of alcohol on the human body and the human brain, and it was for this purpose that they

had been invited that morning. It was not for them, as total abstainers, to say one word as to the prescription of alcohol as a remedial measure; upon that question they knew nothing and said nothing. They asked the medical men to be good enough to consider it in its influence upon men and women in health, because they came even more closely than another class of gentlemen, the clergy, into the inner life of the families of Great Britain, and they had a particular opportunity of giving words of counsel and caution, such as no one else could have. If the medical men, therefore, would direct their attention to this subject, he felt confident that they would be able to prevent much of this great mischief, for that the evil was terrible they could not deny. That evil was patent to all, and the difficulty was—How could it be remedied? His friend in the chair found out many years ago the absolute remedy in his own case, and although he (the speaker) had not attained the same honourable status as the chairman, yet he had practically abstained for many years, and they could consequently both state what they believed to be an absolute, certain, and safe remedy. They asked medical men, therefore, to take the subject into consideration, and to investigate it more particularly in regard to the relation of intoxicating drinks to the causes of disease. If the medical men did this they would give the total abstainers their countenance and support more than they had done in the past. They were extremely thankful that so many medical men of late years had given adhesion to their cause, and that they had ceased to recommend the use of alcohol to a large extent. They were thankful for all that had been done in that direction, and they asked that it might be further extended. They trusted that they might be favoured with the views of the medical gentlemen who were not total abstainers, and if there were any gentlemen in the assembly who entertained serious objections to the total abstinence movement, he should be glad if they would state those objections. They

would like to hear the remarks of any gentlemen who felt disposed to object to their views. They thought, however, that they were on safe ground; if they were not, and the medical men would prove that to be so, they should be very glad to leave the unsafe ground and get upon a rock. They only wished to get that which was right for themselves and the people, and they trusted that the medical profession would favour them with their views on the question without hesitation.

Dr. J. MILNER FOTHERGILL (London), who stated that he was not at present a total abstainer, said the question of the use of alcohol was largely engaging the attention of the medical profession, not only with regard to its composition, but its effects upon the individual and upon society. There was no doubt that drinking was very much too prevalent, and he was sorry to say we were going on drinking more. These associations—these temperance societies—were therefore very much needed—an organised body, something that would bring together the opinions of different people in one concrete whole, being absolutely essential, in order that the subject might be kept well before the public. He had the very greatest respect for temperance societies, though he did not go the “whole hog” with their views. The temperance movement had the effect of making medical men discuss the question. There was a great deal of drinking encouraged, promoted—and he was afraid he might say absolutely created—by the medical profession. It was to him most painful to see the way in which respectable women were ordered to take drink; they drank, and often got themselves into a very unfortunate position indeed. Drink was very bad for men, if they took too much of it—but he thought all would agree it was worse for women, and he was strongly of opinion that it was very much worse still for children. He protested against the common practice of prescribing for little children port wine three or four times a-day, whereas they ought to have milk and

porridge. It was a villainous thing. A great many medical men did these things in order to please their patients, because if it were not ordered the patients would go to another medical man. The practice would not be stopped until the whole medical profession were pledged, so that when patients changed their doctor, they would not be able to change the treatment. The nervous system of children was exceedingly susceptible, and, once induced to take a mouthful of alcoholic liquor, it was difficult to eradicate its ill-effects. The seeds of drinking were sown in the child before it had any responsibilities of its own. It was a shocking thing to see on a Sunday, artisans going into the country, and taking their four or five children into the public-house, and giving them a drop of gin-and-water to keep warm their little stomachs. These were the people they had to reach, in order that they might make them feel they could do without alcohol.

Dr. C. R. DRYSDALE (London) thanked the Committee of the National Temperance League for the hospitable manner in which they had received their guests that morning. He entirely agreed with the objects of that association. He thought there was no necessity to cajole any medical man on this question, because he believed the weight of the argument lay entirely on the temperance side. It appeared to him that the question might be pretty well resolved in this way: they knew that a vast amount of preventable disease was caused by the use of alcohol, and one could well imagine that if there were no alcohol in the world the human race would be a great deal better off. Therefore, he apprehended, taking it altogether, that the temperance society was in the right. He objected exceedingly, however, to that other league whose object was to compel people not to drink. He really thought that if such a proposal were carried into law he should take to drinking himself in spite of it. But with regard to the National Temperance League, he thought that they ought to give it as much support as possible. It was not alone in Great

Britain that an enormous amount of preventable disease was produced by alcohol. He was in Paris a year ago, last November, and speaking to an eminent medical man there, he said:—"I suppose you have much less disease caused by alcohol in Paris than in our country." "Quite the contrary," he said; "next to pulmonary consumption the diseases that carry off people in the greatest numbers in Parisian hospitals are caused by alcohol." He (the speaker) could not appeal to statistics at that moment; in this country they had very few medical statistics, but they saw what medical statistics would prove, and he for one said, without hesitation, that the temperance movement was based upon science as well as upon morality.

Mr. JOHN OAKLEY, M.R.C.S. (Halifax), said, with regard to the remark of Dr. Fothergill that medical men prescribed alcohol in order to please their patients, that he did not believe medical men would prescribe what they knew to be injurious to their patients. He himself, although not what might be called a teetotaler, had been an abstainer for some twenty years; but if he thought it necessary—if he thought his health would be better by his taking alcohol, he would take it. There was no doubt that in many cases people were situated amidst such injurious surroundings—bad sewerage, bad ventilation, and vitiated atmospheres—that a certain amount of alcohol was almost necessary in order to enable them to digest their food. He thought it was necessary, in the first place, that they should see that municipal corporations attended to their duties by providing better sewerage, better ventilation, and improved dwellings, and then any necessity for stimulants would have passed away. He believed himself that if people went on living in unwholesome places, they would take stimulants in order to enable them to go on with their work. His experience taught him that men came from the country strong, hardy, and well, and, after living for a few years in the adulterated atmospheres of our large towns, they began to get

tired, exhausted, and wearied, feeling themselves almost unable to do a day's work; and some day they would take a glass of stimulants, and feel that it did them good. The man felt that it picked him up. As he had said, they must go the root of the matter, and compel the corporations of the large towns to build houses properly arranged, drained, and ventilated, and the people would then be able to be healthy and well.

Dr. WILLIAM WILLIAMS (Liverpool) said, that upon one or two occasions he had abstained from using alcoholic liquors simply from moral views. Six and a half years ago he had a severe illness, which compelled him to abstain entirely, and he felt so much better without the usual glass of beer or wine to dinner that he had never commenced taking it again. It was constantly stated in teetotal papers that drunkenness was promoted by medical men prescribing alcohol in some shape or other to their patients. Now he had enjoyed a very large practice in Liverpool, especially in midwifery, having attended as many as three hundred confinements in a year. He had, of course, occasionally ordered stimulants to patients, but never had he known a person become a tippler in consequence of his prescriptions. He wished, therefore, to deny the statement constantly made that the first step towards intoxication was the glass of wine ordered by the doctor. Whenever he had found it so, he had always been able to trace a previous tendency to drinking. What doctors ought to do, therefore, was to look carefully into the matter and they would generally find where the tendency to drink existed, and when that was the case they should be extremely cautious as to how they ordered a glass of wine or beer. Dr. Richardson, the other day, wrote an article upon the chemical side of this question. He (the speaker) would not presume to answer that article, but he wished to refer to one point, viz., that the giving of alcohol was a call upon the constitution for some present need which must be replaced by-and-by, as, for instance, when a

person gave a cheque upon his banker. The other day he had occasion to treat a case of fever, in which, as a medical man, he felt compelled to prescribe alcohol pretty freely. The patient recovered, and as soon as possible ceased taking that kind of drink. If Dr. Richardson's statement were true, that the giving of alcohol was a call upon the future, a demand upon the constitution in advance, the convalescence in this case ought to have been much more protracted, because the man would have had to make up what had been demanded from him during the ten days he had taken brandy. On the contrary, the convalescence was quick, rapid, and complete. These remarks were all he wished to make that morning.

Dr. NORMAN S. KERR (London) said one of the speakers had observed that stimulants were necessary, owing to the defective ventilation and bad construction of the dwellings of the lower classes of the people; but he thought that was an erroneous view, because the people ought to live in better houses, and they would do so if they did not spend their money in drink. If they would get rid of the poverty and crime they must begin with total abstinence. That was true philosophy, and he thought they were indebted to the National Temperance League for bringing them together and showing them the way to get rid of the great mass of evil in their midst. So far as his own experience went, he had not the slightest hesitation in taking to cold water. Since he had done that, however, he had lost many religious lady patients, who wished to be told that they ought to take a spirituous or spiritual nightcap. Though he was lighter in pocket in consequence, he was stronger in head and lighter in heart, and had a conscience more void of offence towards God and man. He was sure every one, especially of the medical profession, which had so much moral responsibility cast upon it, must think that this total abstinence was right, that this taking of the pledge, as he had done, not as a mark of weakness, but an emblem of strength, was something to be thank-

ful for, which, in his opinion, would help them in their warfare against all the evils with which they had to contend. In his professional capacity, he had repeatedly to attend a man for the effects of drunken outbreaks. On one occasion he had said to this spasmodic drunkard, "Why don't you take the teetotal pledge and stick to it? Why do you make yourself and your family so miserable, and so endanger your life both here and hereafter, benefiting no one but the publican and the doctor?" The reply was, "I will take the pledge, sir, if you will." He (Dr. Kerr) put it to them, if, as a Christian physician, there was any other reply open to him than, "If that is all that stands in your way, I will take the pledge at once." He did so, and the result was that the drunkard referred to not only had become a healthier, happier, and richer man, but had bought an old demoralised schoolhouse—so utterly dilapidated that not even the School Board would look at it—had converted it into a spacious temperance-hall, hung all around inside with beautiful engravings, the basement being utilised as a bar for the sale of natural and wholesome beverages, where temperance meetings were held every night, and religious services three times every Sunday. The neighbourhood was formerly known as "Little Hell," but "Little Heaven" would be a more accurate title now. By this simple temperance act over 150 victims of alcohol had either directly or indirectly been elevated from the wretchedness of intemperance to the happiness of abstinence, and was not the humblest share in such a bloodless revolution a double pleasure and a double honour, when arising in the course of ordinary professional duty? It was true that, though he had not lost a single publican or any other person engaged in the liquor traffic as a patient, in consequence of his taking the cold-water plunge, he had lost several quiet, respectable, wealthy, religious ladies and gentlemen, who would not have a doctor who owned to the soft impeachment of being a water drinker. In the discussion

upon habitual drunkenness, the best discussion they had had in connection with the Association meetings, it seemed that the *sine qua non* of the whole thing was total abstinence from intoxicating drinks. To those who believed in the epicurean philosophy of "eat, drink, and be merry," he would say—Abstain! They would be much better in health, mind, body, and pocket if they drank water, rather than alcohol-and-water mixed with other abominations. He would rather be one to show people how to remain in health than to tinker them up when diseased. He was happy to say that he was one of those medical men who felt that they have duties to their fellow-men—social duties, moral duties, and religious duties—and if they could only help on a great movement like this, restraining, hindering, and keeping back the great causes of disease, crime, and immorality, he considered they would achieve great good. The question of alcoholic medicine was entirely a professional matter; but even when not a teetotaler, he never resorted to alcohol unless it was absolutely necessary. In nearly 30,000 cases, which he had tabulated, he had not prescribed, during the whole of his career, one bottle of alcoholic liquor, even in the most serious cases. The only time he had prescribed it was in an emergency; when a man was dying, and it was next to impossible that he could recover, then he put the brandy bottle to the mouth of the patient, regardless of what might be said by any teetotal society. He prescribed wine very largely, but it was non-alcoholic and unfermented wine, and was in much commoner use than most were aware of. In the East, many varieties of non-alcoholic wine were constantly to be met with, and in some parts of France the peasants drank nothing else. They were exceedingly fond of *vin bourroux*, or muddy wine—muddy, not with fermentation, for it did not begin to ferment till the expiry of about forty-eight hours, but from the seeds and pulp, the grapes being bruised in a heap in a rough press, only the

larger shreds of skin being left out when the new wine of the vintage—and very toothsome wine it was—flowed from the press. By a very simple process, preventing any fermentation, destruction, or disturbance of the natural component elements of the grape, a perfectly pure, natural, nutritious, and palatable wine had for some years past been prepared by Mr. Wright, of Kensington—a drink as safe for the reformed drunkard, as it was invaluable in the treatment of fever and prostration. In the hæmoptysis of phthisis, he had found this unfermented wine of great service; in all bleedings it was safe and blood-replenishing; and in small-pox, typhus, and typhoid fever, and in dipsomania, he knew of no more reliable and efficient auxiliary to medicinal remedies. In a very bad case of small-pox, only a few weeks ago, in London, the patient, a young married woman, had been unable to swallow anything besides what he ventured to call “non-alcoholic half-and-half,” which consisted of equal parts of unfermented wine and water, for seven and a-half days. To the astonishment of all her friends, and he might almost say of himself, she had completely recovered, and was now fast regaining her former strength. This unfermented wine was most grateful to the palate, when taken in soda-water, Apollinaris, or other mineral waters, or in pure water, with or without ice. Concluding, he proposed a vote of thanks to the President and Committee of the National Temperance League for their hospitality to the members of the British Medical Association.

Dr. EYTON JONES (Wrexham) said he had great pleasure in seconding the vote of thanks to the National Temperance League for their hospitality that morning. There were a great number of cases attended by medical practitioners which could be and were, he thought, better treated without stimulants than according to the old plan. Those who would take the trouble to look into statistics would find that under the non-alcoholic system the rate of mortality was re-

duced; and as a guardian of the Wrexham Union he could assert that the rate of mortality within that workhouse (where stimulants were never introduced) was absolutely lessened, the health of the inmates was equal to what it had been at any previous time, and the order and regularity observed were such as might be cited as an example to any other similar establishment in the kingdom. He would say to those gentlemen who were medical officers of workhouses that if they wished to consider the health of the patient, and he would say the pockets of the rate-payers, they could visit the Wrexham Workhouse with the greatest possible advantage. The medical officer would only be too glad, not only to show them his books, but also to conduct them round the establishment.

Mr. S. S. ALFORD, F.R.C.S. (London), said the licensing system had not yet been mentioned. That seemed to him an important question, and one respecting which they as medical men could exercise considerable influence. The present restrictive system of licensing had caused a huge monopoly, which had thrown all the profits of the drinking system into the hands of a few people, and they had been enabled to build grand palaces, which acted as decoys or leaders-on to the people. He urged that they should try to influence the magistrates to license only *bonâ fide* victualling houses. The licences of house that were merely drinking houses should, in his opinion, be taken away. He thought too much money and too much energy was spent in endeavouring to restrict licences, the effect being, as he had said, to throw the benefit into a few hands. Alluding to the movement for the control of habitual drunkards, he said he believed that movement when successful would have a most happy influence in promoting the objects of the association under whose auspices they were met that morning.

The motion was cordially adopted, and, the Chairman having responded, the proceedings terminated.

MR. SIBLEY ON ALCOHOL IN HEALTH AND DISEASE.

IN his "Remarks on some Current Medical Topics," being the president's address delivered at the annual meeting of the Metropolitan Counties Branch of the British Medical Association, July 24, 1877, Mr. Septimus W. Sibley, F.R.C.S., president of the branch, said:—"The question as to the care and treatment of habitual drunkards has already engaged the attention of this branch of the Association. There is, perhaps, no social problem which is likely to occupy the public mind more than the question how to limit the evil effects of drunkenness. As to the extent and gravity of the evil, we are, I think, all to a great extent agreed; but as to what steps should be taken to remedy the mischief there is great difference of opinion. There is a matter in which our profession may exercise very great and salutary influence; and that is, in diffusing correct ideas as to the influence of alcoholic stimulants both in health and in disease. We may do much to eradicate false opinions as to the value of alcohol as an article of diet. There is a very prevalent idea that alcohol is a source of strength, and that a person will become weak because he ceases to partake of alcoholic stimulants. We are not yet able to determine precisely the amount of alcohol which, taken into the stomach, undergoes chemical change within the body; but a large part passes away unaltered, and we know that alcohol, as a rule, gives only the power of using the strength which already exists, and that it should, therefore, be looked upon as affording the means of putting forth, not of producing, strength. It is the feeling of fictitious power which is engendered by the use of stimulants which, no doubt, inclines so many to have recourse to them. Much good may be done in teaching the public the real properties of alcohol, and in enabling them to discriminate between the effect of food, which sustains strength and supplies the motive power of activity, and of stimulants,

which call forth the forces which may lie dormant within. It is well established that the most perfect health may be maintained, under every possible variety of circumstances, without the use of alcohol. We have evidence upon this point from very varied directions, which itself is testimony to the correctness of the conclusion. Thus there are many tribes and races of people with whom abstinence from alcoholic beverages is in some a national characteristic, in others, a matter of religious observance; and, also, many individuals among ourselves do not take alcohol. A striking testimony as to the conditions of the human body which may fit it for its greatest capacity for exertion, is afforded by the trainers of athletes; whatever the object for which the athlete is to be trained, whether for walking, rowing, pugilistic encounters, or what not, experience testifies that the most perfect physical health is to be obtained either altogether without stimulants, or with the most moderate use of them. As to the use of stimulants in ill-health, and in disease, we have still much to learn. There is good reason to believe that, in some forms of feeble digestive power, and in the debility of age, a moderate use is of essential service. Again, in some acute diseases, stimulants appear to whip the flagging powers of life, and to enable the patient to struggle through a period of depression. In the debility and anæmia which is consequent on long residence in great towns, and on the harass of life, stimulants afford much comfort, and possibly are of considerable service. It is well, however, to look fairly into the question, "Are stimulants of real use to a person in health?" I think that it will be admitted by many that stimulants are taken because they are agreeable to the palate and their effect is exhilarating and pleasant, rather than because they are beneficial to health. The evil of alcohol, I fear, far outweighs the good, and if it were possible to annihilate alcohol in the

world, humanity would be benefited in a degree which it is impossible to estimate, and, both in moral and physical condition, our race would rise to a higher level. Knowing these facts, it is right to sympathise with the movement in favour of abstinence, which has recently so much extended, and which is now so warmly advocated by many clergy and philanthropists. All engaged in practice cannot but feel that there are a large number of habitually intemperate people, who ought not to be allowed to continue in their destructive course without some effort being made to reclaim them. We cannot be satisfied to remain quiet and to think cynically that the evil of drunkenness will cure itself, and that if the drunkard is allowed to have his own way he would soon destroy his life by his pleasure. We cannot be content to act thus, when we think not only of the moral ruin to the individual, but of the distress and misery which this entails upon his immediate relatives. These considerations should urge us to make an effort to save these victims from destruction. There is, I think, abundant evidence to prove that drunkards may be reclaimed. Our own experience will, probably, suggest some examples; but we can, no doubt, recall far more instances in which reform has been followed by relapse, and this has been repeated, perhaps, many times before the end has come. Moral pressure, and the shame produced by the discovery of the vice, will keep many right for a time; the pledge in some form or other will maintain others in temperance; but there are those in which none of these means will prevent them from following their vicious propensities. Are we, then, to leave these cases, or should we step in and force virtue on the vicious? If it can be so adjusted that there should be no fear of interfering with the liberty of the subject, and especially if some safeguard could be devised, so that the power to confine drunkards could not in any case be used fraudulently to incarcerate the innocent, I think that the proposal would meet with general acceptance. There is in Dr. Cameron's bill a clause

which provides that a person who has been convicted before a magistrate for drunkenness three times in a twelvemonth may be sent to a reformatory. This certainly is a power not liable to abuse, and a person who has repeatedly come under the notice of the police as drunk and incapable, could have no reason to complain if he or she were deprived of liberty for a time, more especially as this incarceration would be likely to allow the individual time for reflection under forced abstinence, and would probably restore some power of self-control, which otherwise would be quite lost. It is, of course, necessary that the seclusion should be of sufficient duration to allow this self-control to be recovered. It would not be a new principle in our laws to sentence a drunkard to seclusion for the sake of reform; for we have an analogy in the laws relating to young criminals, who are sent to reformatories rather with a view to reclaiming their characters than as a punishment for the offences they have committed. The charge of those cases whose conduct has brought them under notice of the police would be a proper commencement for legislation in the matter of habitual drunkards. The second step in the proposed bill is one which requires much more consideration and discussion. When it is suggested that a summons may be taken out against any alleged habitual drunkard by the parent, husband, wife, relative, or guardian, we see at once that the door is opened to many abuses. If this provision were to become law, one cannot but fear many vexatious proceedings would be instituted. It should clearly be required that a strong *prima facie* case should be made out before a summons is granted; and unless the habitual drunkard had broken the law in some way, the evidence of drunkenness would require careful sifting. I cannot but think that, in cases where a person is so frequently under the influence of alcohol that his property is mismanaged and squandered, it would be right to deprive such individual of the direction of his affairs. The fear that the

control of his property could be taken from him would exercise a powerful effect in restraining the tendency to drink, and it would, at the same time,

save his relations from some of the distressing effects which so frequently follow intemperance."



INTEMPERANCE AS A CAUSE OF IDIOCY.

THE above was the subject of a paper read in the Psychology Section of the British Medical Association on Thursday, 9th August, by Dr. G. E. Shuttleworth, of the Royal Albert Asylum for Idiots, Lancaster. The writer said he purposed merely considering the connection between intemperance in the parent and idiocy in the offspring, or, in other words, to examine into the extent of hereditary insanity as caused by drunkenness. He then set out to examine certain American statistics on the subject, on the authority of which it has been stated that nearly one-half of the idiots of the United States were the children of intemperate parents. The late Dr. Howe, of Boston, United States, said that out of 300 idiots, 145 had drunken parents, and Dr. James Parrish, of Philadelphia, that a very large proportion of the inmates of American idiot institutions, nearly 50 per cent., were cases attributable to drunkenness. These statements appeared to be based on the "Report of the Commissioners on Idiocy appointed to inquire into the condition of idiots within the commonwealth of Massachusetts in 1848," and this report the essayist set himself to analyse, Dr. Howe being the leading member of the commission. A full tabulation of forty-five sample cases was given, and from this it appeared that in eleven cases of intemperate parents, ten were also described as not in a normal state of health, and the offspring in every case were scrofulous as well as idiotic. The Connecticut Tables were next reviewed, and the essayist contended that here also an array of concurrent causes was cited which should make them chary of assigning drink as the

chief cause of idiocy on the strength of American statistics. He (Dr. Shuttleworth) had recently visited all the principal asylums of the States, and felt bound to say that his impression was that parental drunkenness occupied by no means a conspicuous place in the causation of idiocy. Turning to the returns of our own country, he next referred to Earlswood, and said that Dr. Grabham stated that in 800 cases tabulated by him, six only were probably occasioned by drunkenness, and two only were hereditary. In his own institution, the Royal Albert Asylum, Lancaster, Dr. Shuttleworth added that 418 cases had been admitted during the last seven years, and a persevering attempt had been made to ascertain if the parents of candidates were temperate or otherwise. From a scrutiny into the details of 200 male and 100 female congenital idiots, he compiled the following statistics:—Nine males and seven females had intemperate parents, making sixteen in all, out of the total 300; of these, however, in nine only was intemperance the only ascertained cause, in two there was also hereditary tendency to insanity, in three adverse physical circumstances afflicted the parents, and in two adverse mental circumstances. *These cases were purely congenital, all others being excluded from the list with the greatest care, as also were all pauper cases.* This should be borne in mind, as, the essay continues, "no doubt habitual drunkenness is a common factor of pauperism and of idiocy, and the heritage of an unstable nervous system may readily give rise to epilepsy." In the concluding portion of the paper it is also said that there was little doubt, that such nursing as

a child is likely to derive from a drunken mother will intensify any predisposition to mental defect. The essayist then asks two questions: first, are an unusually large portion of the immediate progenitors of idiot children intemperate; and secondly, are an unusually large proportion of the children of drunkards idiots. In the light of such British statistics as were possessed, and judging from personal observation, he should hesitate to answer the first question in the affirmative; and with regard to the second, he thought an affirmative answer would only apply when the subject was considered broadly,—congenital idiocy was not, as a rule, the immediate legacy of the drunkard to his offspring, but physical and mental degeneracy was doubtless the heritage, and scrofulous disease, epilepsy, nervous instability, and moral obliquity were the direct bequests, and from these latter but one step was necessary to arrive at actual idiocy. Thus, no doubt, the sins of the fathers were visited upon the children to the third and fourth generations.

The PRESIDENT (Dr. J. C. Bucknill) remarked that, although personally he felt a great regard for the late Dr. Howe, he had for some time suspected the absolute scientific accuracy of the conclusions drawn from the Massachusetts Tables.

Dr. SEGUIN (New York) confirmed the statement of Dr. Shuttleworth with regard to American observations on the subject, and expressed his approval of the discriminating way in which the figures had been handled in his statistics. He mentioned that recently, as President of the Association of Medical Officers of American

Idiot Institutions, he had sent out to all practising physicians in the United States queries with regard to their experience as to the causation of idiocy.

Dr. LANGDON DOWN (London) generally approved the conclusions arrived at by Dr. Shuttleworth, although, from long experience, he knew the immense practical difficulty in arriving at the truth with regard to the existence of vicious habits on the part of parents of idiots admitted to public institutions. He had, however, detected and described one or two remarkable cases in which the idiocy of the offspring seemed to be the direct consequence of parental intemperance.

Dr. HACK TUKE (London) thought that the American statistics, if not entirely accurate, might nevertheless have served an useful purpose, and on that ground were entitled to respect.

Dr. SHUTTLEWORTH, in replying, said (in answer to the last speaker) that their first object as scientific men must be to arrive as closely as possible to the truth, without fear of consequences; but that he might add that one of his objects in placing his conclusions before the Section was a benevolent one, inasmuch as he felt that it was not fair that parents afflicted with idiot children should, without good reason, have also affixed to them the stigma of intemperance. He thanked Drs. Seguin and Down for their kind criticism, and mentioned that an examination of the Massachusetts Tables *in extenso*, a copy of which had within the last few days been placed in his hands, quite confirmed the conclusions arrived at in his paper, viz., that, etiologically considered, the cases abounded in mixed causes.



ASYLUMS FOR DIPSOMANICS AND INEBRIATES.

Dr. EDWARD E. MANN, of New York, has sent a letter to the *Medical Press and Circular* (August 22), in which he says:—"In my writings upon the subject of inebriety I have always endeavoured to carefully distinguish

between the dipsomaniac or inebriate, who labours under an uncontrollable and intermittent impulse to take alcoholic stimulants, and the *physiological state*, in which the individual merely chooses to indulge in liquor to excess.

Habitual drunkenness, *per se*, I do not regard either as a physical disease or as a type of insanity. The result—*intemperance*—is the same in both cases, the two *states* or *conditions* widely different. When speaking of inebriates, I do not mean habitual drunkards. The great diagnostic point attending the *disease*, is the *irresistible impulse* by which the patient is impelled to gratify his morbid propensity, being, during the paroxysm, blind to all the higher emotions, and pursuing a course against which reason and conscience alike rebel. Between these paroxysms the inebriate or dipsomaniac is different from a confirmed drunkard in oftentimes disliking exceedingly all stimulants, and is then a useful member of society. As a result of the law of hereditary transmission we find three divisions in inebriety or dipsomania, which we fail to find in drunkenness as a vice. First, a predisposition or simple aptitude, the result of a defective organisation and a weakened or diseased nervous system, as a result of which the possessor is predisposed or has a tendency to seek for the relief obtained by alcoholic stimulants when labouring under physical or mental depression; second, in the latent state or germ of the disease; and third, in the actually developed disease. In both insanity and dipsomania we are dealing with abnormal cerebration; in the one case associated with mania, melancholia, dementia, and idiocy; and, in the other, with a depraved alcoholic appetite,—an irresistible impulse, which the mind seems powerless to control; an *insane impulse*, just as surely as a homicidal or a suicidal impulse is an insane impulse. I think that when our cerebral pathology, which is as yet in its infancy, becomes more generally understood, it will be found equally applicable to this as to other forms of insanity. The terrible insane craving for alcoholic stimulants is often the result of a lowered vitality, or abnormal organic development of the nervous system, that has descended from generation to generation, gaining in intensity until it manifests itself by the complete loss of self-

control, and active inebriety in children and grandchildren after they once taste intoxicating liquors and indulge in them. The blunted moral perception which so many inebriates exhibit, and which renders them peculiarly liable to a relapse after they leave an asylum, is to be regarded in the same light, I think, as the perverted moral sense in moral insanity. In every institution for the insane we find inmates who exhibit no obvious intellectual aberration or impairment, the *moral* faculties being deranged, while the *intellectual* faculties remain apparently in their normal condition. The manifestation of moral insanity may be a simple perversion of some sentiment or propensity, under certain exciting causes, and I think this exactly comprehends cases of inebriety or dipsomania with loss of self-control and perversion of moral nature. The person, of course, is aware that the act is wrong in both instances, but the control which the intellect exercises over the moral sense is overborne by the superior force derived from disease. I have been told many times, by both insane patients and inebriates, that the feeling on the one hand to commit some insane deed and on the other to give way to alcoholic appetite was contemplated in both instances with horror and disgust, and at first successfully resisted, until at last, having steadily increased in strength, it bore down all opposition. What can be a more powerful argument in favour of the disease theory of inebriety? That inebriety or dipsomania is both a physical disease and a type of insanity is proved by cerebral pathology, the fundamental principle of which is, that healthy mental function is dependent upon the proper nutrition, stimulation and repose of the brain, and upon the processes of waste and reparation being regularly and properly maintained. We know that the cerebral cells are nourished by the proper and due supply of nutritive plasma from the blood, and that this is essential to healthy function; and, indeed, the ultimate condition of mind with which we are now acquainted, consists in the due nutrition, growth

and renovation of the brain-cells. If, now, we take into the system an amount of alcohol that causes the blood-plasma to convey to the brain-cells a noxious and poisonous, in place of a nutritive substance, stimulating the cells so as to hasten the process of decay and waste, beyond the power of reparation and renovation, and impressing a pathological state on them, we must inevitably have resulting a change of healthy function and disease induced. We have a change in the chemical composition of the cerebral cells from the standard of health, which is the foundation of organic disease, as it interrupts healthy function. The symptoms of cerebral irritation manifested in inebriates are due to increased excitability of the nerve-filaments and ganglion cells of the brain, while the symptoms of exhaustion and depression occurring at a later stage are due to lost excitability of the nerve-filaments and ganglion cells of the brain. With regard to my views respecting the compulsory detention of inebriates, which are criticised as a measure which the profession would never think of recommending, and 'a measure to which the public would always entertain the greatest aversion,' I beg to reply, that some of the highest pro-

fessional gentlemen in this country have publicly commended them, and that they are supported by such men as Dr. Alexander Peddie, Dr. Austin Flint, Sen., Dr. Willard Parker, and Dr. Thomas B. Christie; and that if the public do not appreciate the necessity of sending their friends or relatives where they may be cured, by compulsion, if necessary, while in an early and curable stage of inebriety, they do not understand their own interests. The question of the compulsory control of habitual drunkards I leave entirely out of the question. I am dealing with a *disease* and would never allow the wards of an inebriate hospital to be cumbered up with confirmed sots. I am dealing with a class of patients who I do not propose to treat as 'lunatics,' except so far as the fact of retaining them until their broken-down nervous system and shattered constitutions are restored and built up, and sufficient mental and physical stamina are given, and will-power enough to resist the force of morbid impulses; and I speak from personal experience when I say that such places can be rendered attractive and homelike, so that both ladies and gentlemen will be equally as happy and contented as when in their own homes."

Notes and Extracts.

TREATMENT OF DRUNKENNESS.—In the *Cincinnati Lancet and Observer*, under the title of "What Medicine offers for the Relief of Common Drunkenness," Dr. McElroy, of Ohio, gives the details of a case of chronic alcoholism treated in a novel way by Dr. McKinley, of Philadelphia. The drugs administered were calomel and ipecacuanha; added to these, a strict general treatment was also carried out. The author protests against alcohol being called a "stimulant," since it limits the speed of molecular transformations. — *Medical Times and Gazette*.

DRINK AND INSANITY.—We are the most chronically drunken people, we will not say in the world, but in Europe. There is no use in beating about the bush in the matter. England is pre-eminently the country where people get "mad-drunk," and where delirium tremens is rife; and out of six murders it is quite within the limits of moderation to say that four are committed while the murderer is more or less under the influence of strong drink. Every year brandy, gin, whisky, and rum send their hundreds, if not their thousands of more or less incurable victims to the madhouses, the number

of whose inmates, as also of the asylums for idiots, are steadily recruited from the ranks of congenital lunatics and imbeciles, the normally mentally diseased offspring of drunken parents.

—*Daily Telegraph*, Sept. 8.

EFFECTS OF ALCOHOL ON EUROPEANS IN INDIA.—Surgeon-Major H. Cayley, Professor of Ophthalmic Surgery, Calcutta, says:—"During my twenty years' residence in India, I have paid a good deal of attention to the effect of alcohol taken—I mean in the ordinary form and moderate quantities—on Europeans in India, and I am quite convinced on the following points:—1. That people in ordinary health do not require alcohol in any form, that they are not benefited by it even in very small quantities. 2. That though in small quantities, as, for instance, a little wine or beer at meals, it may be harmless, the point is very soon reached when it becomes injurious. 3. From careful personal observations when undergoing very hard and protracted physical exertion with great exposure, I am convinced that alcohol diminishes the power of endurance and of resistance to both heat and cold. I may add that the injurious effects of alcoholic drinks, which have come into fashion with other European customs, upon the constitution of the upper classes of natives in Calcutta, are very apparent to medical men practising among them."

THE AMERICAN MEDICAL ASSOCIATION AND TOTAL ABSTINENCE.—In his address as president of this body, Dr. Bowditch, of Boston, at the recent meeting at Chicago, proposed that in future total abstinence from all intoxicating liquors should be observed during their annual meetings. He justified this extraordinary proposition on the following grounds:—"It seems to me that every one of us, even if he disagree to the proposition of total abstinence, and regards a prohibitory law as simply impossible, would be willing at these meetings to forego the use of any stimulants, for the sake of not leading some weaker brethren into mischief, and because such a position, taken by this Association, would have a most important, though

indirect, effect on the noble cause of temperance throughout the land. I would submit, therefore, whether we, as a body of physicians believing in a true temperance, although varying in our views of what that may mean, should not declare that hereafter we will respectfully but decidedly decline any public or private entertainment, for our whole body, where intoxicating drinks are to be offered." Respecting this singular proposal, the editor of the *Boston Medical Journal* (June 7) observes:—"The proposal to forbid the use of any intoxicating drink at all social gatherings in which the members of the Association take part somewhat surprises us, for we had looked on Dr. Bowditch as the apostle of beer and light wine—of temperance, in a word, as opposed to prohibition. (He has written some excellent papers to this effect.) It seems to us that the best example that the Association can set is that of moderation in conviviality, and that if it cannot partake of wine without such a display as was witnessed in Boston in 1865, it is a conclusive proof that the Association is not formed of the proper material." —*Medical Times and Gazette*.

MEDICAL OPINION CONCERNING ALCOHOL.—At a Temperance Meeting held in Marylebone in April last, Mr. Ernest Hart, editor of the *British Medical Journal*, said that it had been his duty for a number of years past to take note of the changes of medical opinion on every subject of importance to that profession. During that time there could be no doubt that the attitude of the medical profession had greatly altered with respect to the advantages of the use of alcohol. There was no longer any authority of weight who would seriously maintain that alcohol was a food. Instead of being fuel to the human body, it was the great consumer of that fuel. Its action on the human body was analogous to the action of a strong draught upon a fire. It burnt it away. Hence, the increase of warmth immediately consequent upon a person's drinking alcohol was only of a very temporary nature. In a short time the reaction would set in, and the person's tem-

perature be lowered in a greater proportion than it had been raised by the use of the stimulant. This is the reason why a man who is "dead drunk" feels so cold and clammy; and the surest test to apply to ascertain whether he is in that state or in a fit is to take his temperature. For the same reason, if one of two men, before camping out in a cold climate, took a dram of spirits, he would be frozen to death before the other who had not exposed his temperature to the same violent action and reaction. Mr. Hart concluded a very instructive address by saying that, as alcohol was not in any way a food; that, as even as a stimulant, it wasted the vital energy of the human frame; and that, as on the other hand drunkenness was the great evil of this country, and the peculiar sin of Christian peoples, there could be no doubt that it was the duty of all to do what they could to lessen and restrain it.

GASTRITIS FROM ETHER-DRINKING.—An instructive case is recorded by M. Gaillard, in his lecture on Alcoholic Gastritis, contained in the volume of Clinical Lectures which he has just published. A woman, forty-eight years of age, a portress by vocation, whose health had always previously been good, was attacked, about three weeks before her admission into La Pitié under the author's care, with slight tremor of the hands. A week later she suffered from substernal and interscapular pain, and then morning vomiting. In addition to the tremor of the hands, she began also to experience tremors, cramps, and formication in the lower limbs, with weakness in walking. The vomiting continued, as well as the pain in the chest, the pain not being limited to the lower end of the sternum, but experienced along the whole course of the œsophagus. The tongue, which was large and white, was tremulous; there was intense thirst and some anorexia. M. Gaillard concluded that the patient was suffering from alcoholism, but the imputation was denied by the patient so strenuously, and with such an air of sincerity, that it seemed as if the diagnosis, which, however, appeared

to be fully borne out by the results of ten days' treatment, could not be sustained. It was then, however, found that the patient's denial was perfectly true, but that she had during the past two months taken habitually before her meals a piece of sugar dipped in sulphuric ether, on account of indigestion. She had thus consumed ten bottles of ether, each containing eighteen grammes (more than half an ounce). The immediate effect was one of excitement, which was followed by giddiness, a sense of weight, and tendency to sleep, but these effects speedily passed off. The case affords a good illustration of the resemblance between the physiological effects of ether and alcohol.—*Lancet*, Sept. 15.

DOCTORS AND PATIENTS.—We have no hesitation in saying that the medical profession of to-day is as prone to yield to the patients' wishes in this respect, and prescribe alcohol when it is quite unnecessary, as they were in the time of Dr. Cheyne. The existence of intemperance amongst women of the higher classes, to which, unfortunately, we cannot shut our eyes, is in some degree traceable to the culpable weakness of medical men. A woman suffers from some derangement of the nerves, brought on, perhaps, by late hours, or tight-lacing, or too much tea-drinking. She finds that a glass or two of wine will brace her up for a bit, and she gets a doctor who will give her the prescription she desires, and which she will probably exceed. That the abuse exists cannot be denied. Two hundred of the leading medical men in London testified to it under their hands some time since. That it is not confined to London, is, unfortunately, too true, though we think Dublin physicians more sturdy in the matter than their *confrères* in England. But they require a little awaking on the subject, and a general expression of opinion which would strengthen them in a difficult task. After all, their position is a hard one. Every doctor knows that in many cases he has the choice of ordering the dose he is called on to order, or losing the patient. Now, even medical men are but human. Some give in, some re-

sist. We ourselves know cases of medical men having lost valuable patients because they would not prescribe drink. It is hard for individuals to make a stand against the system, which unfortunately is spreading. But if public opinion, and the opinion of the profession as a body, could be brought to bear, the task would be lightened. If it were once brought home to all our minds—first, that alcohol in any shape is not a food, is not a true heat producer, and imparts no real strength or nourishment; and second, that it is only in rare cases that it is useful as a medicine, and that commonly other medicines may be given with equal advantage—the ground would be cleared of a good deal of pernicious nonsense, and that benefit could not fail to result which always follows the dissemination of truth, whether palatable or the reverse.—*Dublin Freeman's Journal*, Sept. 15.

ALCOHOLISM AND MEDICAL STUDENTS.—In a letter to the *Lancet* a medical student says:—"It is hardly possible to meet a friend—I am speaking as a young man—in the streets nowadays without, after the usual salutations have been given and exchanged, the question, 'What will you drink?' being asked. It comes as naturally to some men as 'How do you do?' to most. I am sorry to say that it is not only the 'nonprofessional' who is a victim to this habit, but that it is found largely amongst students of medicine, not only in England, but in Scotland also. I have had much experience in medical schools of both countries, and can affirm with truth that this vice of constant and oft-repeated 'nipping' is daily and hourly increasing. In Scotland perhaps the evil is rather worse, as, spirits being cheaper than here, more is obtained, and the effects come on more quickly. If one calls on a fellow-student in his rooms, it would be considered as a breach of the great unwritten law of hospitality if he did not very soon either ring his bell or open his sideboard and proffer his guest 'beer, wine, or spirits.' Of course it is easy to say 'No,' but I fear that the system is so deeply

rooted that one very rarely hears that answer. It is perfectly astonishing what an amount of alcohol is daily taken by some in this way. 'Little but often' seems to be their motto. As long as they do not get intoxicated, most of them seem utterly oblivious that they may have been taking too much. They appear regardless of the consequences that must follow sooner or later. That there will be a crusade against this 'constant nipping' ere long is certain, or the consequences to the generation following, and to the drinkers themselves, will be disastrous. The remedies are difficult to suggest with regard to the general public, but an appeal to the student's intellect ought to be sufficient. The student ought to have the baneful effects of alcohol on the system much more clearly and authoritatively laid before him both in the lecture theatre and in the text-book. Let him be taught by the surgeon and the pathologist that the *physical* effects of this constant dosing the system with spirit are even worse than the moral. Pamphlets have been written repeatedly on the subject; but we students rarely read them, and only take in what is taught in our books and by our professors."

DRINK-CRAVING.—No one who has watched a typical case of drink-craving can deny for a moment that it is a disease. The subject of it is, perhaps, a man of honour and intelligence, or a woman of pure and modest feelings. At most times—at any rate in the earlier stages of the disease—the patient can act his part in life with credit to himself and with the respect of his fellow-men. He may even be for the time a total abstainer from alcohol. But the paroxysm of the disease comes on, and everything is made to bow to its imperious necessities. The whole will is dominated over and tyrannised by a single longing, which for a time becomes its sole motive power. Nothing is allowed to stand in the way of its gratification. Honour, honesty, modesty, virtue, the teachings of experience and the precepts of morality, must all yield to the new despot. The powers of the mind succumb as readily before it as do the

powers of the body before the invasion of small-pox or cholera. The craving often comes on at definite periods—every six weeks or two months—and then the sufferer's dread of its advent is no less distressing than is his unconditional surrender to it when it comes. He begs to be preserved against himself, to have the weakness of his own will made up for by the compulsion of others; but he finds that the law does not allow it. The State will punish him as a drunkard, but will not take charge of and cure him as a dipsomaniac, and so he passes on from bad to worse, losing hope, and honour, and force of will, until he at length dies in the prime of life, to the unspeakable relief of every friend and relative. The case is still more painful when the subject is a woman. Self-control is so much expected of each woman of the better classes that the absence of it—even though it be from disease—is enough to rob her of all honour and respect. The alienation of her friends and the ill-disguised contempt of those who serve her add to her misery and increase her disease, till she dies, a sacrifice to our warped notions of morality. The above may be extreme cases of the malady; but every practitioner of moderate experience will readily admit that they are by no means exceptional ones. The cases in which the disease appears in milder but scarcely less deplorable forms are much more common, so common, indeed, that to prevent or limit their occurrence is recognised as a matter of national importance.—*Medical Examiner.*

SANITARY REFORM AND TEMPERANCE.—In a lecture on "Tenants and Tenements," recently delivered at Dublin, the Very Rev. Dr. Dickinson, Dean of the Chapel Royal, says:—"Let the advocates of temperance welcome as their allies in this good cause every movement of every sort for the improvement of our people. Let them hold out a hearty hand of fellowship to the sanitary reformer, to the enterprising speculator, or to the public-spirited company that undertakes to build healthy homes for our poor; to the dietician who gives in-

struction as to the cheapest forms of wholesome food; and to the teacher or district visitor who shows the school-girl or housewife how to cook it. Give welcome to the inspector of nuisances, the builder, the whitewasher, and painter; wish good luck, in the name of the Lord, to everyone who either throws down an old house or takes possession of it to make it clean and habitable, as Miss Octavia Hill has done in London; give joy and God-speed to everyone who brings into those dismal and unlovely homes any brightness, or sweetness, or light; who opens public libraries, museums, or galleries, or squares; who provides rooms for working men to go to, or innocent amusements to lift their lives and make them in any way happier and better. Let nothing be discouraged, but rather every appliance, every alliance, welcomed that shall rightfully and lawfully work towards this great end. But only let those who imitate or join in all such schemes and efforts be certain of this, and recognise it thoroughly, that unless the temperance movement spread and succeed all other efforts will be perpetually defeated; all other work that may be done will be eternally undoing; that freedom, and civilisation, and comfort, and progress, and health, and all that makes the real prosperity of a community will be impossible, unless the population of our cities and rural districts can be emancipated from that habit, which is the real and most potent source of poverty and sickness, of a perpetuated ignorance, of an inherited pauperism, of a congenital tendency to vice, to idiocy and madness; the source and the most fertile cause of the violation of sanitary laws, of degradation, disease, and death. Make good all other improvements that you can. Effect all other material and outward and partial reforms that you are able to carry out; but, believe me, that unless you attack the master-spirit of mischief that rules amongst us, you cannot really win. You will be like a chessplayer who shall have taken from his adversary a few pawns, and been, himself, *checkmated*."

THE
MEDICAL TEMPERANCE JOURNAL.
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Original Contributions.

DR. DYCE DUCKWORTH ON THE MEDICAL INJUNCTION
OF STIMULANTS IN DISEASE AND IN HEALTH.

WE always turn with special interest to papers and articles which appear in the Medical Journals bearing on the action and employment of alcoholic stimulants. From whatever point the subject is viewed the necessity for light—MORE LIGHT—is most urgently felt, and we know that an enlightened medical authority must be the ultimate appeal as to the position which these mysterious and powerful agents are to hold. Legislators, moralists, and philanthropists all wait for a more decisive verdict than has yet been uttered by the medical profession; although many most valuable contributions have lately been made, and evidence of a most conclusive character has accumulated which we are assured only requires to be judiciously used and presented again and again, so as to secure this most desirable end—a more united verdict from the profession.

We have been on the look out for more than twenty years for every contribution which offered any help to a more correct knowledge of the mode of action of alcohol, which might guide to any satisfactory principles as to its administration in disease, and justify, if possible, its employment in health; and it was with more than the usual amount of expectation that we observed in the *British Medical Journal* of November 10, the somewhat puzzling title of a paper by Dr. Dyce Duckworth, on the Medical Injunction of Stimulants in Disease and Health. Dr. Duckworth is Assistant-Physician to St. Bartholomew's Hospital, Examiner in the Practice of Physic in the University of Edinburgh, &c., and we were, therefore, justified in our expectations that his contribution should be of some substantial value. Dr. Duckworth

had very recently a letter on the same subject in the *Lancet*, which had given rise to some discussion, and there was therefore good ground for presuming that he had given some special attention to the question, and had something valuable to offer to his readers.

We need not hesitate to express our profound disappointment with the article. We have had enough of vain declamation and dogmatic assertion in connection with this subject; what is now wanted is a just recognition of facts, sound argument based on these facts, and trustworthy deductions, so that principles may be determined upon which reasonable men may be expected to agree. In Dr. Duckworth's paper we have abundance of what is not wanted, and literally nothing which can help to a better understanding of the matters in dispute.

But perhaps we do injustice to Dr. Duckworth in expecting anything conclusively helpful from his paper; for while he announces that all action in the administration of stimulants should be based on the *soundest principles*, and that it manifestly lies within the sphere of medical men to solve the problem, yet he, as a medical teacher, deliberately proposes to discuss the subject of his paper, while, as he says, he "avoids arguments upon general principles, and excludes deductions from particular instances." Now, these are precisely what are wanted to bring sound principles into acceptance with the profession, and it is to us utterly incomprehensible how anyone from the standpoint occupied by Dr. Duckworth could attempt to speak or treat of a subject, confessedly of such importance and difficulty, on such grounds. Certainly he has most consistently and successfully carried out his plan of discussion, for he has made but a sorry use of his particular instances, and we can discover no general principle evolved in the paper at all higher than his own *ipse dixit*.

In a letter by Dr. Duckworth, to the Editor of the *Temperance Record*, of Nov. 22, he says: "I am one of the warmest friends of the temperance cause, and I am at work in it several days in each week in my large hospital sphere." We find also that he is a "vice-president of a branch of the Church of England Temperance Society," and yet the burden of his paper is a series of lamentations over sundry absurdities, as they are exhibited in connection with the London Temperance Hospital, and by the recent decided advocacy by Dr. Richardson and Sir Henry Thompson of the principle of entire abstinence from alcoholic stimulants. This extreme divergence of opinion in the profession is to Dr. Duckworth evidently very lamentable, and he sees in the present increasing prevalence of opinion against the use of alcoholic stimulants a wave or wavelet of fashion in physic which will have the same fate as other waves of an older date which have "foamed

out their own shame on the everlasting shores of attained medical truth." This is high-sounding phraseology, but is it anything more?

Dr. Duckworth evidently can look with complacency on these perturbations. From his rest on these happy shores he has much blame, and little pity, for his less fortunate professional compeers. Many of us are still among the waves of the abounding uncertainties of physic—unconscious, however, of any shame attaching to the situation—and often enough vainly endeavouring to touch bottom, while few of us even dream of the existence of such a haven as Dr. Duckworth seems to have attained to. But it is rather hard for those who have battled through the shameful surges and rolling waves of the drinking customs of society, and of the scarcely less creditable stimulating practices in physic, and who have found a sure foothold on the rock of entire abstinence in the one case, and the rarest possible use of the dangerous and deceptive agent in the other; we say it is hard for us who have thus accepted the dictates of science and most extended experience, to be taunted in this way by one who is simply under the delusion that he has found the truth. He, like others of whom we have heard, cries Peace, peace, when there is no peace; does he not see that, as a moderate drinker, there is no defined line of separation between his position and that of the drunkard. The total abstainers are on one side—the safe side—of the great gulf; the drinkers, of all degrees, are on the other, exposed to a common danger, and with no security against the ensnaring agent with which all so confidently tamper.

Dr. Duckworth passes on to consider the employment of stimulants in disease; but he makes not the slightest endeavour to find a principle of guidance; no reference is made to the extensive and interesting series of facts in connection with the action of *alcohol* on the tissues and functions of the living frame. He enumerates many diseases in the treatment of which he unhesitatingly determines that alcohol is unnecessary or injurious. In other cases, he says: "It *seems* certainly sometimes beneficial." And further, "Time would fail merely to enumerate either the separate diseases or the special indications in and for which stimulation is deemed advisable, and only deemed so because of its distinct beneficial effects. I shall, therefore, only refer to some classes of diseases, to illustrate what I mean by the legitimate employment of stimulants." With the very evident disposition to bless the remedy which Dr. Duckworth indicates, it is remarkable that the enumeration which follows exhibits a great preponderance of diseases in which alcohol is "not wanted, either as a nutrient or a stimulant;" "we find but rarely a place for alcohol;" "no stimulant is called for;" "especially we do not want stimu-

lants ;” “most cases are best treated with little or none.” Had Dr. Duckworth intended to show the little aid which alcohol gives in the treatment of the most formidable diseases, he could hardly have adduced more suitable illustrations. And, on the other hand, when the use of alcohol is advocated, there is a dubiety and hesitation of tone which is noticeable ; and we are very doubtful if his conclusions, even on this side, would be generally accepted by the profession.

If the general tenor of the paper were not so obviously in favour of enhancing the value of alcohol, and so full of fear lest it should be put aside, much of what Dr. Duckworth says might be accepted as perfectly safe and harmless doctrine ; for there is but as poor a case as could be, made out in favour of this essential element in the therapeutic armamentarium, and it must be admitted that Dr. Duckworth claims nothing more on behalf of the use of alcohol in disease than that it should be recognised as a medicine, a true remedy for disease, and thus far we presume all professional teetotalers are at one with him. Only they claim to be a little more discriminating even than he is, and they claim also the right to determine for themselves whether the indications are so conclusively in favour of alcohol as to exclude all other stimulants. The entire omission of all attempt to determine the mode of action and exact value of the agent, utterly and profoundly vitiates any claim which the address has to be regarded as a sound or scientific discussion of the subject.

Dr. Duckworth passes to his second head of inquiry, What is the medical injunction respecting stimulants for the healthy—that they are medicines *for the sick* he considers that he has established, and now he puts the question : “Is alcohol or wine food ?” He says : “Some physiologists tell us No. I do not believe them.” Here again Dr. Duckworth seems to think that his belief is to settle the question—not a word is offered as to what constitutes a food. *Stimulants* are the subject of discussion ; Dr. Duckworth believes that they are *food*, but not a word of definition of what constitutes either a food or a stimulant. Dr. Duckworth’s proof that they are food would be very amusing if it were not calculated to be mischievous : “Malt liquors, at all events,” he says, “are merely thin soups with a modicum of alcohol ;” very thin indeed we must admit, veritable *soupes maigres* ; but why should Dr. Duckworth indulge in such reckless use of language ? He ought to know what soup is, and what food is, and what stimulant is, and he ought to let each term have its proper and acknowledged value in such a discussion. Dr. Duckworth adds : “I am fully satisfied of the nutrient power of wine and alcohol alone, under some conditions, or more especially in conjunction with other pabula.” Here endeth the proof that wine or

alcohol is food! Listen, ye dietetic inquirers, from Liebig's day onwards—who have spent your strength in determining by observation and experiment whether alcohol is food or not; cease from your vain endeavours; from henceforth be it known that “malt liquors are thin soups,” and Dr. Duckworth is “fully satisfied that alcohol and wine are food, especially in conjunction with other pabula.” We must be excused if we say that such talk is simply contemptible, in view of the scientific interest and importance of the question, and especially in view of the tremendous issues which are at stake. If Dr. Duckworth had nothing better to say, why did he not leave the subject to those who would deal with it on its own merits, and realise the necessity of exactitude? Starting from such a sorry basis, it is not surprising to find Dr. Duckworth meandering onwards in a series of incoherent remarks, in which it is impossible to follow him to any good purpose. Again and again he hits as hard as any teetotaler at the indulgence in stimulants,—then he has a word to say on behalf of the poor man's beer—then a hit at the legislature for permitting the sale of unwholesome fermented liquors—then he states that the large eater, with which he charges the total abstainer, will do as much textural mischief as the potations of the slightly moderate drinkers. Dr. Duckworth “thinks it is proved that an addition of a little alcoholic food to a meal secures a more moderate ingestion of solids,” an idea which does not harmonise with the most frequently adduced reason both for the medical injunction of, and the popular indulgence in, alcoholic fluids, viz., to stimulate the appetite for food. Dr. Duckworth himself puts this in sufficiently strong light in his criticism of Sir William Gull's testimony before the Lords' “Committee on Intemperance.” “In conditions of fatigue,” Sir William said, “people might very well drink water, or take food, and would be very much better without the alcohol.” This Dr. Duckworth regards as “a venturesome, if not an unfounded opinion,” a remark which of course comes with peculiar grace from the author of a paper full of venturesome opinions, and which does not present a single foundation-fact or principle bearing on the subject of which it professes to treat. In correction of Sir William's opinion, Dr. Duckworth “asserts that he is fully satisfied of the power of stimulants in states of bodily, cerebral, and cardiac exhaustion”—but who ever doubted the power? the question is whether the power operates for good or for ill. “Carefully acquired experience,” Dr. Duckworth goes on to say, “leads me to recognise conditions of systemic fatigue which ‘water’ will not allay, and in which the very idea of ‘food,’ even to a naturally wholesome and strictly temperate man, at such a moment, is simply loathsome;” what becomes now of

Dr. Duckworth's claim for wine and alcohol being *food*—and why may not the absurd and canting and large-eating teetotalers, on whom and their cause Dr. Duckworth delights to heap his epithets, be allowed in their extremity to regard this "food" as "loathsome"? "A glass of wine," according to Dr. Duckworth, "soon enables the subject of exhaustion to eat such a meal as, without the preliminary stimulant, he would certainly not have faced." Thousands are to be met with every day who will assert as assuredly as Dr. Duckworth that they are fully satisfied of the power of stimulants, and that they never could face their chief meal without the preliminary and accompanying stimulant—but the power they recognise is the power to make them eat. Surely the teetotaler may be acquitted of this charge of gluttony in view of the small esteem in which he holds this sovereign resource for deficient appetites. While noticing Sir William Gull's evidence Dr. Duckworth challenges another of his utterances, viz., that when he was fatigued "he ate the raisins instead of taking the wine." This Dr. Duckworth regards as "certainly epigrammatical, if not paradoxical, and he deprecates such a method of giving scientific evidence." We are personally grieved that this testimony should be reprobated in such severe terms by Dr. Duckworth, as we have long been in the habit of taking, as we used to say, our wine at first hand, and we were flattered to find ourselves in our practice and opinions in such distinguished company; after such a reproof we must be quiet.

But we must bring our remarks to a close. We very much regret the necessity for such criticism as we have been obliged to bestow on Dr. Duckworth's paper; but it is of the greatest importance that a sound method of investigation and discussion should be adhered to in dealing with this subject, and Dr. Duckworth has so egregiously failed to supply any trustworthy data for guidance, either to the profession or the public, that in faithfulness to the cause we represent we must point out his shortcomings and errors.

Dr. Duckworth's paper is addressed to the profession, and he evidently wishes that the public mind should be guided by the opinions and views of medical men; but we must bear in mind that the public, in originating and prosecuting the Temperance enterprise, have been always in advance of professional opinion. The instincts of humanity, which Dr. Duckworth again and again tells us are to be trusted as a safe guide in the *use* of stimulants, have guided abstainers to the conclusion that the true place of safety is in entire abstinence from all that intoxicates. In reaching this conclusion they have had little to be grateful for but opposition and abuse for their presumption, from the medical profession.

The concurrent testimony of the highest scientific and professional authorities to the soundness and sacredness of their position is a thing of late date in the history of the true Temperance movement. The rising tide now swelling onwards with such force as to disturb the equanimity of such observers as Dr. Duckworth has drawn little of its force from the medical profession, and therefore it cannot, in fairness, be used as an outflow for any shame which the frequent oscillations of the professional mind, as Dr. Duckworth thinks, give occasion for discharging.

Strangely enough the only emphasized sentence in Dr. Duckworth's long paper, and which, it would seem, he presents as his chief conclusion, completely puts aside all appeal to professional opinion or authority, and concludes that it must be left entirely to the individual to determine his duty in the matter of stimulants. "It comes to this, then," Dr. Duckworth emphatically says, "*that the rational individual must honestly find out for himself what the special needs of his system are* : and where a right-minded Christian individual is in earnest on such a matter, and has a proper control over his appetite, he is not likely to go far wrong in the matter of stimulants." Now, this is the very principle on which the first teetotalers founded their enterprise ; but from the point of view and the course of discussion taken by Dr. Duckworth we can conceive no conclusion more utterly stultifying than, after claiming so much for the influence of the medical profession, to admit and assert that every man must decide the matter for himself. The admission and assertion, however humiliating, at any rate is honest, and may be accepted as a final intimation, alike to the profession and the public, that in any endeavour to establish a principle by which to determine whether these alcoholic stimulants are "*good for food*" no aid is to be expected from Dr. Duckworth, and the school of Temperance Reformers to which he belongs. There is nothing for it, then, it would seem, but that every man must run the risk and find out whether he is to stand or fall before this fell foe, alcohol. We know well, and Dr. Duckworth ought to know, what is involved in this *finding out*. A certain percentage of the experimenters will indeed *go far wrong*,—they will infallibly pass on to the deeper deeps of drunkenness and all the attendant horrors, but on such a fate as the fruit of this admission we must not dilate.

Still we must put the question, Are there really any such *special needs* of the *individual system*, as to leave each man under such a sad necessity ? Have all our scientific researches and elaborate inquiries into the mysteries of nutrition, left us unfurnished with any data to enable us to determine what to eat and drink, and avoid ? Must we throw away all the past experience of humanity as to what is good for food and what is not, and start off each

upon his own account to find out what *his special needs* are? The injunction is utterly absurd and mischievous, and to be reprobated by all the force that language can command.

We have already noticed that Dr. Duckworth has interspersed a large amount of good teetotal doctrine throughout his paper. He says, "If we have to deal with persons who are careless and self-indulgent, or who by their lives and calling are much in the way of drink, our duty as medical men is surely very plain. Let us urge teetotalism in all such cases." If Dr. Duckworth leads off in practice on this line, we can assure him of abundant material on which to operate, and he may count upon a prolonged teetotal campaign. It will be long ere the *careless and self-indulgent*, and *those much in the way of drink* will be weeded out and brought to the only place of safety. But we may confidently assure him, indeed, from his own admissions in his paper he knows, that he need not attempt to urge teetotalism while he practises and justifies moderate drinking; that would be, to use his own terms, simply to fight the air. He knows that no one can urge teetotalism to any purpose who is not an abstainer.

Dr. Duckworth takes pains to leave us in no doubt as to his attitude towards teetotalism. "After all I have just uttered," he says, "you cannot suppose that this mission can have my approval. . . . I believe it is a hopeless mission; it is simply to fight the air. Little can come of it. . . . We have no scientific basis to work from, and we cannot stultify ourselves as medical men by countenancing so vain a mission. . . . It behoves us as calm-thinking and scientific men to be very careful how we countenance this wavelet of opinion upon teetotalism, . . . it is a fleeting clamour, . . . cant temporarily prevalent, . . . a yoke under which we can put our necks only to repent of doing so." In his letter to the *Temperance Record* Dr. Duckworth complains very keenly of the manner in which abstinence views are advocated. "Mischievous consequences," he says, "are resulting," "the extreme views held and contended for on this question are daily doing a vast amount of harm to the cause of true Christian temperance. When these views are rudely pressed and intruded upon sensible and right-minded people, they not unnaturally cause resentment," &c.

We think we need hardly waste words to convince our readers that Dr. Duckworth has very well squared accounts with his abstaining friends; as abstainers we are so well abused that we take it without complaining in the way the moderate drinkers do; but we know our rights well enough to defend them, and we protest against the conceit which claims possession of a scientific basis, and yet presents no science,—which claims the calm-thinking and sensible and right-minded people, and the

true Christian temperance to be all on the side of the "moderates," and leaves the abstainers with nothing but a hopeless and vain mission which they rudely press and intrude with clamour and cant, and do their utmost to put a yoke on the neck of those better than themselves.

Dr. Duckworth crowns the absurdity of his position by "very humbly" giving this advice to total abstainers. "Go to your proper work," he says, "be busy in reclaiming the varieties of drunkards. Therein lies your chief work. You have more influence, I understand, in these cases than 'the moderates' have." We moderates shall without fail do our part, we shall keep up the supply of all the varieties of drunkards; we can make these; we cannot unmake or mend them, we therefore leave them to you in your hopeless and vain mission; put a yoke on them, and expend clamour and cant to your heart's content. "Do not meddle, as you often do," he again says, in the attempt to prevent the production of drunkards, and to thwart our more hopeful and successful mission, "where you are not wanted," &c., &c. Upon what plea or pretence, we ask, does Dr. Duckworth base his claim to assume the position of dictator and disposer of the active energy of the Temperance army? Surely he that has not buckled on his armour should not boast as he that taketh it off. Dr. Duckworth has much to do to establish his own position as a Temperance Reformer before he can expect to be listened to by men who have borne the burden and heat of the day, and have carried the banner of total abstinence from all that intoxicates to the proud position it now occupies at this hour.

Our complaint against Dr. Duckworth is that in his paper he has not even attempted to deal with the subject in a manner to do any credit to his profession. If the public mind is to put any trust in the dicta of the medical profession on this question, it must be for reasons fully and fairly stated, and for these we are sorry to say it will look in vain throughout Dr. Duckworth's paper. If Dr. Duckworth would consult the classical work of Dr. Parkes on Practical Hygiene, he would find a model which he would do well to follow when he again attempts to discuss the subject of the injunction of stimulants. Dr. Parkes had no teetotal cant about him, and Dr. Duckworth will not think it demeaning to be invited to follow so noble an example. Had Dr. Parkes' valuable life been longer spared, we believe he would have done great service in compelling the professional mind to strive after more correct and trustworthy conclusions than are yet available on the use and abuse of stimulants. Dr. Parkes goes over exactly the same ground as Dr. Duckworth, viz., the dietetic employment of alcoholic stimulants in health, and their use as a remedy for disease; but he makes the physiological action of alcohol the basis

and groundwork of all his reasoning; a department of inquiry on which Dr. Duckworth makes not a single remark.

Dr. Parkes begins his inquiry with beer, and among its physiological effects he prominently notices the lessened excretion of urea, and diminished pulmonary exhalation of carbonic acid. The influence of alcohol on the stomach, liver, spleen, lungs, heart, and blood-vessels, the blood, the nervous system, the muscular system, on the metamorphosis of tissue, the temperature of the body, the action of the eliminative organs, and, lastly, the remote effects of alcohol, are all put under review, and the *ascertained medical* truth in connection with this potent agent as far as possible determined. Under these several headings Dr. Parkes details some most impressive facts, which have already been quoted in our pages. One remark, however, under the last head, we must present. Dr. Parkes notices that alcohol has been called the "very genius of degeneration;" and "these alcoholic degenerations," he says, are "certainly not confined to those notoriously intemperate. I have seen them in women, accustomed to take wine in quantities not excessive, and who would have been shocked at the imputation that they were taking too much." In contrast to Dr. Duckworth's strongly-worded opinion as to the necessity for alcoholic stimulants in states of exhaustion, we must also quote a sentence from Dr. Parkes. He says, "It would appear most proper, after great fatigue, to let the heart and muscles recruit themselves by rest; to give digestible food, but to avoid unnecessary and probably hurtful quickening of the heart by alcohol."

Dr. Parkes throughout treats his subject in a thoroughly scientific and enlightened manner, and if his conclusions are not in all cases such as we approve, yet his method must command the respect of all intelligent minds interested in the subject.



THE MEDICAL ASPECTS OF TOTAL ABSTINENCE.

To no medical journal is the cause of Temperance more indebted than to the *Lancet*. Though the Editor does not advocate total abstinence as a duty incumbent either on medical men or laymen, he writes with the pen of one open to conviction; he is continually denouncing the various mischievous beliefs and practices associated with drinking, and has only recently thrown open his columns to the free and unfettered discussion of teetotalism. In the *British Medical Journal*, and in other professional newspapers, brief and spasmodic attempts at the ventilation of the

conflicting views of the medical profession on our movement have, from time to time, been originated; but all these attempts have failed to excite any prolonged interest. In the *Lancet*, however, a spirited and weighty controversy has been waged for some time, and deserves more than passing notice. After some preliminary skirmishing, Mr. Brudenell Carter led off with a graphic account of no less than three different attempts he had unsuccessfully made to practise total abstinence, from which we gather that the alarming symptom which mainly compelled him to return to alcohol was a constant tendency towards drowsiness and sleep. "Soon, a new condition declared itself, for I became so drowsy that I could not get through an afternoon of sedentary work. If I had nothing to take me out after luncheon, I fell asleep over a book in my study." "My tongue became furred, my palate disordered, my urine threw down a copious deposit, and I felt weary and languid."

It is strange how helpless men of science often show themselves to be in the common affairs of life. Here is a scholar, a gentleman, and a wit, feeling some discomfort from the sudden abandonment of an artificial solace to which his system had long been accustomed; and the only conclusion he can come to is, that to remove the feelings of distress and discomfort, he must resort to his unnatural comforter again. At a later stage of the discussion, Dr. A. Munro furnishes one key to the explanation of Mr. Carter's languor, in the suggestion that Mr. Carter was taking too much food. As Dr. Munro very judiciously says, "Were a patient who had been in the habit of taking a little alcohol regularly, to tell me that he intended to try to do without it, I should say: 'You must for a time take more rest and less food, otherwise you will most likely suffer. The organic functions will be less active for the time when stimulation is no longer employed. You will not be able to make good use of the same amount of food; you may digest as much, but it will not be all turned to good account in the way of generating force, or building up structure. The system will consequently become overloaded; the blood will become impure, and you may have foul tongue, loaded urine, and drowsiness after dinner. You must, therefore, for two or three weeks take less food, and allow yourself more rest.'" We know an intellectual and highly-cultured clergyman, who suffered from such a reaction as Mr. Carter seems to have been the subject of, for the long period of fifteen months, after abandoning wine, and who then emerged into a state of splendid and permanent bodily and mental vigour. Many a time during that dreary probationary experience did he almost lose heart and resolve, like Mr. Carter, to return to his alcoholic soother, but he lived for many long and active years a life of surpassing useful-

ness, and was never weary of recording his thankfulness for the strength of mind which had enabled him, amid such depressing circumstances, to hold steadfast to his abstinence principles. Had Mr. Carter even substituted bland stimulants, such as extract of meat and essence of beef, for the disused alcoholic refreshers, we are convinced he would still be, what he says he was so anxious to become, a confirmed abstainer.

Mr. Carter tells of a gentleman of seventy years of age, who was supported entirely by alcoholic drinks for six months. As Mr. Carter however says the aged valetudinarian took no solid food, and *practically* lived on alcohol and water, we suspect that milk and beef tea, with perhaps some soups or broths, are entitled to be credited with assisting to support life in this case. For ten days several now famous men lived lately on nothing but water, and we are acquainted with the remarkable case of a ship's captain, who is still alive, and who existed for twenty-eight days, while lashed to the rigging of his ship, and exposed to bitter cold, nothing passing his lips all that time except water. Dr. Hooper quotes the case of a man who for twenty years took nothing but a bottle of gin and a finger of toast per diem, and who lived to eighty-four. Fond as we are of toast, we confess that we have a greater respect for it now than ever before, as, if the above case be accurately recorded, a moderate quantum kept a man alive for a score of years, in spite of the poisonous effects of an immoderate daily dose of spirit. It is really wonderful on how small an amount of genuine nourishment any one may live, and live well. We all eat much more than is necessary to keep us in health and strength, and it would be well for total abstainers to set to all an example of moderation in eating. Mr. Jeaffreson, of Framlingham, thinks "that the influence of alcohol, as an ordinary article of diet, is greatly underrated. Men require some hydro-carbon in their food. Why (save on the ground of pecuniary economy) should they not take some in the form of alcohol, as well as in the form of starch, fat, or sugar? A clever housewife told me that the regular consumption of home-brewed beer diminished the flour bill. People who take alcohol will consume less sugar and bread-stuff than total abstainers." Well, and if abstainers eat more, what does this prove? Simply that alcohol interferes with our natural appetite, lessening the power of digestion, and diminishing the desire for food. Is this rational, scientific, or desirable? We trow not. All intelligent observers admit that the simpler and more naturally we live the better will be our health, and the clearer our brain; and therefore such critics as Mr. Jeaffreson answer themselves.

But even such uncompromising opponents as Dr. Hooper are compelled to make very great concessions to us. Dr. Hooper

says, "We all agree that 'liveners' and 'pick-me-ups,' as they are called, before and between meals, are so many 'nails in a man's coffin,' and will render him ineligible for life assurance." But how can alcohol be good at meals and bad between meals? It is injurious at all times, as Sir William Gull, and all thoughtful physicians admit, but worse, because more speedy and direct, in its action on an empty than on a full stomach. Mr. Carter himself cannot help denouncing, in no measured terms, "the villainous varieties of varnish which are puffed and advertised under the name of whisky;" while Dr. Thorowgood says, "Alcohol in the middle of the day is best avoided, and sherry in the forenoon is little better than a slow and insidious poison."

It is amusing to old and intelligent abstainers to see the wondrous conflict of opinion on certain points which would seem to admit of no dispute. For example, Mr. Carter refers, apparently with approval, to the belief entertained by some that alcoholic drinks are valuable articles of diet, and Dr. Farquharson remarks that "Mr. Carter very properly declines to surrender his belief in the nutrient properties of alcohol." Again, Dr. Farquharson says, "It is, to my mind, abundantly proved that alcohol is a food, as well as a stimulant and a luxury, and a valuable aid to our resources in health as well as in disease." On the other hand, Mr. Kesteven says, "My own experience has led me to look upon alcohol as a medicine, rather than as a food." Dr. Lambert: "I believe there is no alcohol in the human composition. What part then of that composition can alcohol build up? How can it possibly be dietetic?" Mr. Young: "I pass by the very unnecessary and pretentious remarks of Mr. Carter upon exact laboratory work (because its results conflict with his limited experiences), with the hope that he stands alone in his profession in this respect. I understand that the records of medicine show and justify a very different spirit towards the services of laboratory experiments." Dr. Thorowgood: "For my own part, I have not the least belief in any strength-giving power possessed by alcohol." And Mr. Henry Weekes: "My opinion is that a healthy man, with healthy surroundings, not only requires no alcohol, but that, daily taken as an article of diet, it is in the end pernicious." We have thus a great preponderance of medical opinion in favour of our view that alcohol is not a true food, and we believe that the upholders of the opposite opinion, though very clamorous, are exceedingly limited in numbers.

Another curious conflict of opinion is to be found in the modes of treatment of habitual drunkards, advocated by different correspondents. Dr. Farquharson stands alone in the expression of scornful contempt for the employment of moral suasion in the attempt to reform these unhappy victims of alcohol, in this lan-

guage: "The dipsomaniac is practically a madman, whose excesses can only be checked by restraint." Mr. Kesteven nobly disposes of such merciless procedure when he says: "With regard to confirmed drunkards, the only possible chance of cure lies in total abstinence. A dipsomaniac, however, cannot be brought to this point gradually. It must be adopted in full at once. No doubt there would be a certain amount of systematic disturbance caused by the sudden removal of the alcohol, which has been the main article of diet, but by a careful substitution of nutritious substances in sufficient quantity, this difficulty may be easily overcome, and the patient, from being, if not legally insane, actually so, will become a useful member of society, so long as he adheres to *total* abstinence from alcohol—*total*, because, having once yielded fully to the temptation, he is in danger of relapsing if he takes one step in the old road." Dr. Hooper bursts into a paroxysm of virtuous indignation at the very idea of being asked to set a safe example to others. "And now a word or two," he says, "upon the duty of setting an example. Example is all very well in cases where all can and ought to follow it, as in the matters of honesty and truthfulness; but it is the height of folly and enthusiasm to abstain for example's sake, as the vegetarians and teetotalers do, from things, like meat and alcoholic liquors, which, in moderation are useful to some and necessary to others." Dr. Farquharson, too, joins in the chorus: "In conclusion, may I express my entire want of faith in the force of example in stemming the evils of intemperance." "The more moderate drinker will hardly surrender his carefully-formed habits at the bidding of a total abstainer, whose tastes and modes of life run in quite opposite grooves." Dr. Lambert's reply to all this is crushing and unanswerable: "I have been enabled, from the vantage ground of the position, 'nobody works harder, than I, and I never touch it,' to appeal with power to others; and have felt such a satisfaction in influencing to temperance several who were ruining themselves by drink, as I am persuaded far exceeds any that can result from the sensual pleasure of that, 'the genuine article from the great Dublin distillers, matured by keeping,' or 'the glass of fine old Burgundy,' can impart." Dr. W. P. Swain, of Devonport, contributes a noble and outspoken letter. While regretting the failure of Mr. Carter in "the pursuit of abstinence under difficulties," he quietly, yet forcibly, adds, "One may, however, be allowed to discount the loss. For, after all, his (Mr. Carter's) letter goes to prove nothing more than that he, as an individual, is unable to accomplish his work without the assistance of 'very weak whisky-and-water—the genuine article well matured by keeping.'" Dr. Swain then gives his own experience of four years' abstinence, stating that he has done his

multifarious and incessant work as a general practitioner and a hospital surgeon, "not only without detriment, but with improved health." He boldly avers his belief that abstinence would be safe and beneficial to all, and quotes Sir Wm. Gull to the effect that many people in society are dying day by day poisoned by alcohol, but not supposed to be poisoned by it. Dr. Swain truly says that were alcohol eliminated from all dietetic purposes the vast majority of the people would be vastly benefited, thousands of lives saved, many crimes avoided, and pauperism diminished; and concludes in these truthful and earnest words: "If, then, with a wise discrimination, we can induce people to become total abstainers, we not only place them in a position of safety, but we provide in each one so abstaining a point from which temperance principles radiate; for I hold that one wise total abstainer is worth any number of platform speeches, or temperance sermons. In my humble opinion, Mr. Brudenell Carter has taken up his pen too soon. We are not yet, either as a profession or a nation, so far gone in total abstinence as to need a crusade against it."

Mr. Dalby, Mr. Kesteven, and other gentlemen, who take an occasional glass of wine in extraordinary circumstances, effectually dispose of all the objections of Mr. Carter as thoroughly as if they were red-hot teetotalers; but, to our thinking, the most valuable testimony as yet elicited is that of the distinguished obstetrician, Dr. Braxton Hicks, who candidly, and with no uncertain sound, acknowledges his personal obligations to total abstinence:—"Being overworked at the early part of the year, with necessity for writing late in the night for some time, and feeling, after taking wine, that I was rather irritable and depressed, I determined to leave off all stimulants. This I did suddenly, and have continued to do so ever since, with one exception, about four months ago, when, after trying again for a few days I found myself better without, I again left them off." As the result of his abstaining experience, Dr. Hicks states:—"I have never done my ordinary work more easily to myself, feeling much more ready for overwork, much less sense of fatigue at the end of each day; have never suffered less from indigestion; appetite, perhaps, more inclined to sweets, but always good." At first he missed the pleasant flavours of the light wines, but this passed off in a fortnight. This is indeed most important testimony, and some of Dr. Hicks's deductions are of much interest and value. He thinks that it is easier to give alcohol up abruptly than gradually; and that "after a few weeks the habit of looking for alcohol, either as a flavourable or stimulating drink, ceases, and the contrary habit begins to arise, so that one at last wonders why one ever liked the flavours of many." He is also satisfied that "the desire for stimulating beverages depends upon a demand on the part of the system

for fluid to compensate for that which has passed off under exertion. Many fluids supply this want, such as watery soups, tea, milk, fruit, &c., though, perhaps, the addition of alcohol tends to satisfy the desire rather more quickly, but not much more so; if one waits five minutes, the same, or nearly the same, effect is produced. But as nearly all the ready-made drinks have alcohol in them, the latter has been credited with more virtue in this respect than is due to it." Dr. Hicks concludes with a reference to the social difficulties attending an effort towards total abstinence, both in public and private, and we cheerfully admit that to many such difficulties are only too real. One of these is the want of light, pleasant, non-intoxicating beverages, the freshness of which can be preserved without alcohol; and if Dr. Hicks can, as his remarks would lead us to hope, aid us in this direction he will confer a deep obligation on the friends of temperance and on the community at large.

Amongst the score of medical men who have taken part in this friendly discussion, more than half the number have written in favour of abstinence, most of these being teetotalers in their own person. This is most encouraging, and we cannot conclude our brief review without yet one more word of praise to the Editor of the *Lancet*. Open, fair, and honest discussion of our principles, whether by friends or foes, will ever be welcomed by us, and we can only add an expression of the wish that the editors of the other medical papers may all follow the example set by the *Lancet*, and freely open their columns to the unfettered discussion of "the claims of abstinence on the medical profession."



DR. BENNET ON NUTRITION IN HEALTH AND DISEASE.

THE people perish for lack of knowledge. No doubt hundreds of thousands do, and Dr. Bennet in this book supplies information which, if acted on, would prevent the curtailment of many a useful life. Unfortunately not only is knowledge required but the exercise of will-power to put it into practice. Motives are wanted to induce men to exert themselves, especially when that exertion is required in the way of self-denial, or the control of the animal propensities. Men are ever prone to estimate a present gratification more highly than a future benefit. The more certain that benefit is to be obtained, and the more it is valued and realised, so much more likely is it to influence the conduct. So also in the

case of evils to be avoided. It is necessary, therefore, that those who undertake to teach mankind should speak with no uncertain sound, and all great movements have been led by men who had a definite object before them, and who cut their way through or brushed aside every obstacle or every sophism which stood in the way of its attainment.

We have been pleased to observe the sound common-sense of very much—nearly all, in fact—that Dr. Bennet has written in this book, and we can recommend it heartily to those unfortunates who are compelled to remember that they have such organs as stomachs. We only could wish that there had not been at some most critical points an apparent hesitation to speak decidedly on the subject of alcohol drinking. He has more than once left a loophole to escape from the right path of total abstinence of which we fear many will avail themselves. However, we rejoice in a decided improvement over the advice of most writers on stomach complaints in respect to the use of alcohol.

Dr. Bennet gives us a very readable and yet accurate description of the nature of food and of the processes and organs by which it is assimilated. He also describes the destination and uses of the various elements of food. It is well to bear in mind that all foods can be divided into the nitrogenous, the hydrocarbonaceous, and the saline. In addition to these elements food must be accompanied by some sapid materials, without which sooner or later nausea occurs, and the stomach revolts against it. Provided a proper quantity of each of these classes of foods be taken, it matters not what the particular digestible substances are, life will be sustained with vigour. It is, however, needful to vary the diet more or less, in order to retain appetite and strength. Now Dr. Bennet, of course, puts alcohol into the class of hydrocarbons. This must be its place if it be used up at all. It is clear, then, that, as a food, it can never be essential to life: granting that it is all oxidised in the system, its place as a hydrocarbon can be filled by many other hydrocarbons, and notably by the sugar from which it is derived. One advantage claimed for alcohol is that it is absorbed immediately, not requiring any gastric digestion. We may remark that this could only be an advantage in extreme cases, and that sugar is absorbed with equal facility. It is true that cane-sugar has to be changed into a form of grape-sugar during its passage through the liver before it can be made use of as fuel, but it is a pure assumption to say that alcohol does not require any similar alteration: what changes it undergoes are at present utterly unknown, but from the attraction which seems to exist between the liver-tissue and alcohol, it seems more than probable that some chemical reaction occurs between them by which some alcohol

is destroyed. Whether the new combinations thus formed are subsequently employed by the body for heat or work is only matter for conjecture. But though cane-sugar requires some digestion in the liver it is probable that grape-sugar requires less, and if it were desirable to give the most easily assimilated food, and to rest the stomach altogether, there is no doubt that the best course would be to administer enemata of digested meat and grape-sugar.

The idea was long entertained that the chief source of animal heat was the combustion of hydrocarbonaceous matters *in* the lungs. It is now generally admitted, however, that the principal use of these organs is the removal of carbonic acid from the blood and the substitution of oxygen therefor. The myriads of blood-corpuscles collect oxygen from the air, which filters through the walls of the delicate blood-vessels in the lungs; they then convey it to every part of the body, and yield it up to the tissues which have an attraction for it: the heat produced by the absorption of the oxygen by the blood-discs is lost again when they deliver it up, and does not therefore add to the sensible heat of the body. But the oxygen so yielded up combines in the tissues themselves with other elements, chiefly carbon and hydrogen, and it is this combination which is the real source of heat and which takes place in every part of the body in various degrees. The carbonic acid so formed is then yielded up to the blood and escapes from it in the lungs. The integrity of these blood-discs is therefore essential to the right performance both of work and nutrition, and this is always going on; as Dr. Bennet says, "Change, constant change, is the law of organic life."

Some people seem to imagine that it is desirable to check the rate at which this change of tissue occurs. They speak of alcohol, tea, coffee, &c., as being economisers of fuel, and yet they seem to imagine that, notwithstanding this, the same work is going to be done, and done as efficiently as before. It is marvellous that the absurdity of this is not perceived. It is exactly the same error as that of the industrious individuals who are always almost on the point of discovering perpetual motion. Work can only be done at the expense of so much fuel, and, if alcohol hinders metamorphosis, the source of the energy may be changed, but never diminished, so long as the work is still done. Experiment shows, however, that alcohol diminishes the amount of carbonic acid thrown off from the lungs: here is proof of a pernicious influence, whether it be due to diminished oxidation of tissue, or to retention of waste products in the system.

Dr. Bennet recognises the fact that the hydrocarbons of the system are burnt up in the same way as coal is used by the

steam-engine, namely, for the production of force. He scarcely, however, lays sufficient stress on the fact, which has been demonstrated by Wisleceus, Fick, and others since the first edition of his book, that the nitrogenised structure of the muscles is very little used up even during severe work, as is proved by the very slight increase of urea excreted under such circumstances. The real work is obtained simply from the oxidation of the hydrocarbons, which, however, seem to have to be taken into the intimate structure of the muscles for this purpose. Alcohol appears directly to interfere with this oxidation of tissue by its chemical action, and hence one source of the diminution of the force of muscular contraction under its influence.

Nor is he correct in ascribing the use of alcohol to any special "instinct." It is true that the inhabitants of cold countries take it largely, and he tells us that this is due to a craving for fuel, the same which induces the Esquimaux to drink train oil and eat candles. But the same propensity is found among the natives of Central Africa, and other torrid places. The sensations produced by alcohol are the true key to its general acceptability, and, when once the taste is acquired, even the lower animals desire it as eagerly as man. One of the most important of these sensations is the feeling of warmth at the pit of the stomach which follows almost immediately on the ingestion of alcohol, and soon after that the general sensation of warmth, which is due to the relaxation of the capillaries of the skin and the bathing of the cutaneous nerves, as it were, in warm blood. We are surprised that Dr. Bennet actually attributes this sensation of warmth to very rapid oxidation of alcohol in the capillaries; the true explanation of this sensation having been given since 1858, the date of the first edition, we suppose the error has been retained in this second edition by an oversight. Drs. Richardson and Parkes have shown that the sensation of heat is only subjective, and that, though its distribution is altered, its total amount is decreased. To use alcohol as a generator of heat is now condemned by all scientific men, and to attribute its use to instinct is therefore to libel the Creator. We may suspect a similar error in the notion, which has been rather prominently paraded lately, that "instinct" accounts for, and justifies, the use of alcoholic beverages under other circumstances. Dr. Bennet thinks that it is vain to endeavour to eradicate the taste for stimulants in northern climates. As this has been done in thousands of cases we cannot see why it should not occur universally if the right steps are taken: but, after all, our great work as abstainers is not to eradicate the acquired taste, but to prevent its gratuitous acquisition, which is always the result of bad example. His idea that nervine stimulation is instinctive because it is pleasant, will not hold water

at all; and his other plea—that almost all men and all nations take some form of nervine sedative or stimulant, and may, therefore, reasonably take alcohol—is as good an illustration of the *lucus a non lucendo* argument as one could wish. For several of the drugs so used in different countries have totally opposite effects, *e.g.*, coffee and opium; no instinct can, therefore, account for their use. Fashion is by far the most important cause of their wide-spread use, and determines largely which shall prevail. Unless he is prepared to say that there is an instinctive desire for each and all, it is not right to postulate such a reason for the drinking of alcohol.

We can endorse the following:—

“It is by no means necessary that alcoholic stimulants be ingested in large quantities to do mischief; or, to use the phrase already employed, to be taken in excess. If stimulants in any quantity, however small, interfere with the digestive and nutritive functions, they may be said to be taken in excess.”

That is to say, there can be no such thing as moderation if harm is done; and this does not depend on the recognition of the harm by the person harmed, but upon the fact, recognised or not. There can be no moderate use of bad things, their use is itself abuse. The evil done may not appear for a long time; all may seem *couleur de rose*; the “mills of God grind slowly;” but natural laws are relentless, and the penalty must be paid to the uttermost farthing.

Dr. Bennet, curiously enough, recognises the delusive effect of alcohol in the case of dyspeptics, so that we have hope that he may yet recognise a similar fallacy in their apparent benefit in health. He says that, in certain cases, “so far from doing good, they are a snare and delusion, owing to the temporary feelings of strength and comfort to which they give rise, at the very time they are, in reality, disturbing digestion and poisoning the economy.” How little are mere feelings to be trusted! Dr. Bennet is most outspoken in exposing the false idea which is so very prevalent as to the value of alcohol in dyspepsia. Again and again he tells dyspeptics, especially those who have long suffered, that they ought to abstain from alcohol altogether; once or twice, however, spoiling his good advice by a weak concession to fashion, or prejudice, or both, by saying that the abstinence should be “total, or all but total.” That this criticism is fair will be evident to all who will read the following long but most valuable extract, in which he lays down the general principles on which his advice ought to be founded.

“In regulating the dietary of those who are suffering from defective digestion and defective nutrition, in a confirmed and chronic stage, the question of the advantage or disadvantage of alcoholic beverages occupies a prominent position, and requires careful elucidation. The debility and languor which usually exist

in such cases as a painful reality, and which are the immediate result of the defective elaboration of nutritive materials are, *for the time*, remedied by alcoholic stimulants. Wine, malt liquors, brandy, spirits, stimulate the nervous system of the weak or dyspeptic patient, and give for a short period artificial strength. They who can neither think nor act, whose brain is clouded, and whose muscles are powerless, recover under their influence, temporarily, the deficient mental and bodily energy.

“No materials, however, for the repair of wasted tissue have been afforded—or, at least, none which the economy can or will use—and once the influence of the nervous stimulation has been exhausted, a collapse generally follows, and the debility and languor are greater than ever. This is a law of nature; all artificial stimulation is followed by proportionate exhaustion of the function stimulated. . . .

“Such strength as that which alcoholic beverages give to the weakened dyspeptic is a mere delusion, which does harm in many ways. On the one hand, it exhausts the remaining vital power of the organisation without any commensurate advantage. On the other, it deceives both the patient and his medical adviser—the patient, by endowing him for a time with power which he has not in reality, thus masking his real condition; the physician, by persuading him that he has really given strength, when he has only stimulated the nervous system. In a word, if the patient is exhausted, weak, debilitated, unable to go through the duties of life, it is much better that this, the real state of the economy should be recognised and accepted, and its causes struggled with, conscientiously and scientifically, than that his condition should be obscured by any kind of alcoholic stimulant. . . .

“Such a stimulus, although it gives apparent strength, may in reality produce positive injury, and render the epoch of recovery more and more distant. What should we say of a surgeon who handed crutches to a patient complaining of lameness, as a remedy for his ailment? Should we not feel that his duty to his patient would be better performed if he were to inquire into his real state, to see whence his lameness proceeded, and to treat the cause before he advised the crutches? And yet such is the line of conduct of the practitioner who advises stimulants to a dyspeptic patient because he is weak. The sufferer had better feel weak than gain temporary strength by means which only lead to a greater collapse, and to an exaggeration of the cause of his weakness. He had better be cold and chilly, and seek a remedy in artificial warmth and clothing, than gain it temporarily by agencies which increase the digestive disorder—the real cause of the chilliness.”

The chief reason why alcohol is taken in dyspepsia is undoubtedly because it acts as an anæsthetic, and relieves many morbid and painful sensations which have their origin in indigestion. It does not remove the cause, but bribes the sentinel which gives warning of errors committed, in order that the painful experience may lead us to avoid the causes thereof in future. Such conduct is a physiological mistake, not to say sin, even though it may happen that other circumstances may intervene, and cure the dyspepsia without permitting the patient to reap the penalty which such alcoholic narcotising is calculated to produce. How slow we are, however, thinking all men mortal but ourselves, to profit by other people's failures and experience! Man wants to enjoy the pleasures of sin against all law—physical, moral, divine—and to escape the penalty somehow, if only by a lucky chance, he will venture again and again, lured on by his

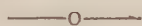
own weak impulses and the lie of the tempter, "You shall not surely die."

There are two results of dyspepsia, whether due to excessive food, or other causes, which we do not observe Dr. Bennet to allude to, but which merit a word because they are of very common occurrence, and yet often attributed to wrong causes. We allude to fainting and to susceptibility to catarrh. Both of these are nearly always due to dyspepsia. Fainting due to disease of the heart is extremely rare; if due to hæmorrhage or anæmia the cause is known, but when none of these one may pretty safely diagnose dyspepsia as the predisposing cause and most important factor. The knowledge of this may allay many a fear, and remove the idea of the necessity of an immediate stimulant to ward off impending death. If such patients are laid on the ground, sprinkled with cold water and left alone, they will come round. The other case, namely, repeated catarrh, is also common, and the knowledge of the fact may assist many to rapidly recover the tone of their system by suitable dieting.

There are many other sentences in this useful book which are suitable texts for remark, but we refrain, and recommend it to the attention of those who are troubled with a stomach, albeit we know that among our abstaining circle such cases are below the average.



Miscellaneous Communications.



ON THE MEDICAL INJUNCTION OF STIMULANTS IN DISEASE AND IN HEALTH.*

By DYCE DUCKWORTH, M.D., F.R.C.P.,

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I AM not unmindful that I open up in this brief communication a very large subject; but it seems to me that I can fairly well embody what I have to remark within the compass of a short paper, provided that I avoid arguments upon general principles, and exclude deductions from particular instances. There can be no doubt

that the public is much stirred and interested at the present time upon the subject of stimulants. It has come home to the minds of a large number of true-hearted and patriotic Englishmen that the reproach cast upon this country for its notorious drunkenness is utterly grievous, and calls on all hands for the best efforts to remove it. We find, therefore, that such efforts have taken form in various organisations to promote temperance. It appears to me that all

* Read at the Conjoint Meeting of the East and West Surrey Districts of the South-Eastern Branch.

action in this matter should be based upon the soundest principles ; and, as a problem of this nature manifestly lies within the sphere of medical men to solve, it is clear that the members of the medical profession should exhibit such unanimity upon the subject as becomes those who have received the fullest measure of physiological training in the community. And, indeed, the question of our national intemperance practically comes, in the meantime, to be dealt with by the clergy and the doctors. When the medical profession presents an united front, or, at all events, a stronger body in line than it actually does to-day, arrayed against this evil, it will be in a position to lay down principles which should guide the clergy in their efforts, and the time will then have arrived when the members of these two professions can together lay such a case at the doors of our legislators as they can neither gainsay nor resist.

I apprehend that a vast deal of energy is lost in this cause, and no little harm done to the legitimate influence of medical men, because such immense differences of opinion prevail amongst our members on the subject of stimulants. As one who signed the famous medical declaration respecting alcohol some years ago, my own position in regard to this question is fixed. I have never materially wavered in my opinion, and I think I see clearly the aspect in which this subject should be viewed by all thoughtful and observant practitioners of the medical art. But what do we find as the expressions of opinion of men from within our ranks? We have in London a Temperance Hospital. If a temperance hospital be a proper and superexcellent institution, then all the hospitals in the world are worked on an erroneous principle in this respect. We find one of our most original members, a man of unquestioned ability, and fertile in ingenuity beyond his fellows—Dr. Richardson—actively engaged in propagating teetotalism as the outcome of elaborate physiological experiment. We find the most skilful lithotritist of the day enjoining the same practice of

abstention. On the other side, we find, if not a large number of practitioners, yet very many, who, if not in position to teach, certainly enforce by their injunctions, the principle of the value of full stimulation both in health and disease. We find further, and happily, that a clear majority enjoins what may be termed a legitimate and sensible course in this matter.

But, when we review this varied expression of opinions, can we allow that it is satisfactory or in any way creditable to our profession? If such gulfs exist within our own ranks, what opinion is to be formed by the laity who, in these days, are wise enough to think for themselves on most subjects? Here we have a vast body of men specially trained to observe, brought into closest contact with their fellow-men under every conceivable variety of circumstances, differing, be it noted, about *facts*. Now, as my late revered teacher Professor Hughes Bennett used to say, it must always be discreditable for medical men to disagree about *facts*, though large latitude may be allowed for difference of views about *theories*. If this be so—and I accept this dictum—then there is no middle course for us to pursue. Stimulants, therefore, are *all right if they be rightly used*, or they are *all wrong if they be used at all or in any degree*. It behoves every one of us to have a clear understanding in this matter, and to frame our conduct upon well-ascertained and incontrovertible principles ; for I suppose no one here will stand up to defend the exploded theories as to change of type either in humanity or the diseases of that humanity. We are all old enough to have witnessed some wave, or it may be waves, of fashion in therapeutic measures. Some may recall the bloodletting days, others the days of distinct stimulant treatment ; some have seen mercury abused, and some have perchance seen attempts made to treat disease without this drug. But what do we all agree to say and to affirm to-day in respect of such reminiscences? Do we not say that all these waves successively represented un-

stable struggles towards the truth; that one was a Nemesis for its predecessor; and that assuredly all of them have now foamed out their own shame upon the everlasting shores of attained medical truth?

If we then cast our eyes over the prevalent varied opinions upon this subject of stimulants, we see several waves upon the horizon; and, when we confront such an outlook, I think we are not likely to be wrong if we believe that these perturbations, like others that have come before, will subside and leave us with some settled opinions. But the whole question must be taken up; and its claims for our best attention are very strong, especially at this time. I believe, then, firmly, that a wave of fashion in physic very rarely, if ever, represents a wholesome thing in itself; and our duty is to resist being carried away upon such waves by holding on to the ever-sure method of constant clinical watchfulness. The settlement of this vexed question comes, I apprehend, by honest clinical work in so far as the sick are concerned.

On the topic of stimulants for healthy people I shall express myself presently; but I would remark in this place that it seems to me inconceivable, if not absurd, that a solution of such questions could ever be attained by the best researches made in laboratories upon any of the lower animals. Arguments deduced from such sources, however, weigh very heavily with the laity; and it is easily intelligible that appeals should be made to such researches by zealous but non-scientific labourers in the great temperance cause. I am not here to decry the splendid work done in the laboratories of this or other countries, nor to discourage any earnest seekers after new truths in physiology—far from it; but surely the great laws affecting the physical well-being of our humanity are best to be learned by the study of that special humanity itself, and of all that influences it. There must ever be a great gulf fixed between all that pertains to man and all that affects even the next inferior order of beings. We cannot in all respects apply the phy-

siology of the lower animals to problems which man's body *alone* furnishes for us daily. The chief study of the medical mind should be *man*.

Not to digress further in this direction, I pass on to state briefly what I hold and see to be the true and legitimate position which the thoughtful in the medical ranks assume in respect to the employment of stimulants in disease. I shall not find many to differ from me in the opinion that the whole course of illness, in most cases of the continued fevers, can be conducted in young persons without stimulants, provided no important complications or undue asthenia are present. There can be no question, I believe, that these do best on milk-diet for the most part, and, as a rule, require no stimulants. During convalescence, the addition of three or four ounces of wine to the diet for an adult seems certainly sometimes beneficial. In elderly persons, and in those who have been in the habit of using stimulants freely, it is frequently *necessary* to employ spirit and wine, sometimes in large amount. The same rules hold good for pneumonia; not so for cases of pleurisy, with or without effusion. In the exanthemata, cases void of special complications betokening either malignancy or asthenia require no stimulants, as a rule. But, given the typhoid or putrid state supervening in any such cases, resort must be had to alcohol. The well-trained clinical finger and ear will recognise the circulatory conditions which indicate it. Time would fail me merely to enumerate either the separate diseases or the special indications in and for which stimulation is deemed advisable, and only deemed so because of its distinct beneficial effect; I shall, therefore, only refer to some classes of diseases to illustrate what I mean by the legitimate employment of stimulants. In the varieties of Bright's disease, it is plain that alcohol is not wanted, either as a nutrient or a stimulant. In most, if not all, hepatic affections, in gout and gouty disorders, in affections of the urinary tracts and bladder, we find but rarely a place for alcohol. In rheumatic fever no stimu-

lant is called for, unless in those long-standing cases where the heart becomes weak, and the patient is exhausted by alkaline sweats, where truly alcohol is the best drug we know of; and especially do we not want stimulants in acute rheumatic pericarditis, save where there is perhaps danger of fatal syncope from large effusion. During convalescence, however, stimulants may be needed, if much myocarditis have occurred. In the majority of cases of valvular cardiac disease, whether it be mitral or aortic, or both, there are often clear indications for wine or moderate stimulation. In phthisis the same rule holds good; and in all cases of chronic suppuration the value of wine and malt liquor can hardly be questioned. Perhaps no cases admit of more free stimulation than those of bronchitis, especially in old persons. The power of alcohol is also very great in several infantile affections, in bronchitis particularly, and as a fattening agent in marasmus. In the large class of nervous disease, much discrimination is needed. Great care must be exercised in cases of hysteria. Choreic patients are often benefited by wine, but most cases of chronic nervous disease are perhaps best treated with little or none.

Now, what is the outcome of this rapid and most imperfect sketch? It is surely this: that there is *no routine* in the matter of employing stimulants. Legitimate injunction of malt liquor, wine, or alcohol is, therefore, placed in exactly the same category with that of any medicinal drug or therapeutic agent we employ. Every case is judged upon its own merits. There is a reason for the giving, or for the withholding, for the particular stimulant *prescribed*, and in each instance the cardinal clinical rule is to be observed, viz., to ascertain, so far as possible, what is the ailment, and what is the phase and import of it, to the particular individual before us. This, then, I maintain, is the position into which we, as intelligent and rational practitioners, relegate the question as to the use of stimulants in disease. We put alcohol, with its congeners, into our therapeutic arma-

mentarium; it is to hand when wanted, just as are quinine, calomel, the lancet, or the cupping-glass. We cannot do without it, or any of these things, but we employ them or not as our bedside knowledge indicates.

To turn now to the second part of this communication, which shall be brief, what is the medical injunction respecting stimulants for the healthy? We have hitherto spoken of these agents as medicines, and so they are, be it observed, *to the sick*. But, is alcohol or wine food? Some physiologists tell us No. I do not believe them. Malt liquors, at all events, are simply thin soups with a modicum of alcohol, and I am fully satisfied of the nutrient power of wine and alcohol alone, under some conditions, or more especially in conjunction with other pabula. That those things are *necessary* to healthy and well-fed people leading what may be called normal lives, I do not believe. There is plain evidence to the contrary. The majority of healthy people leading wholesome lives *can* do without stimulants. To such persons, a *moderate* use of wine or malt liquor is, therefore, a luxury, but not *necessarily* a pernicious one in itself. But, I ask, how many people are there in the world of sound health persistently leading normal lives? Are we prepared to say that a little good beer is not a very valuable addition to the often scant fare and coarse food of multitudes of hard-working people in the lower orders, or that it may not fairly be taken *in moderation* to counteract, as it will, the many sources of depression to which such people are inevitably exposed in this country? I think not. And if I am told that persons of this class cannot get good beer, then I maintain that the legislature is in fault for permitting unwholesome liquors to be sold to any portion of the community. Medical men may, I believe, fairly tell the healthy and robust, the well-fed and well-housed, to forego the use of stimulants if they find that they fully maintain their health without them.

Knowing full well the injurious effects of even slight excess in strong

drink, it should be borne in mind that total abstainers are generally large eaters, and thus the digestive and excretory organs may have as much work to do for the abstainer as for the slightly immoderate drinker. Hence the ultimate textural effects, if any, may not be very dissimilar in the two cases. I think it is proved that the addition of a little alcoholic food to a meal secures a more moderate ingestion of solids, and, where it agrees, which it does not always, promotes a more satisfactory digestion of them. We have to recognise further that a large number of persons are distinctly better without alcoholic drinks in any form or quantity. They suffer from a series of anomalous ailments, chiefly dyspepsia and insomnia, and will never have their proper health so long as they take stimulants of any kind. It would be well often to try the omission of stimulants in such cases, and to watch the result.

We cannot fail to observe that persons of all degrees of intelligence and culture, who are never intemperate, begin at a certain time of life to limit themselves, as they say, to a daily allowance of alcohol. They drink so much beer or wine seven days a-week, be they busy, be they idle, be they out of doors, or be they immured. This is manifestly wrong, and such habits need correction from intelligent medical sources. There can, I hold, be no routine allowance of alcoholic food even for the healthy. There must be a relation between the nervous, muscular, and respiratory wear and tear and the consumption of this paratriptic food. More may be needed or instinctively called for to-day, and less to-morrow; or on some days none at all perhaps.

It comes to this, then, that *the rational individual must honestly and conscientiously find out for himself what the special needs of his system are; and where a right-minded Christian individual is in earnest on such a matter, and has proper control over his appetite, he is not likely to go far wrong in the matter of stimulants.*

If we have to deal with the subjects of drinking insanity, with the nervous

classes of drunkards, with persons who are careless and self-indulgent, or who by their lives and callings are much in the way of drink, our duty as medical men is surely very plain. Let us urge teetotalism in all such cases. And here comes in a difficult part of the medical practitioner's duty. It is certain that by a too-pliant demeanour we may retain the confidence of tippling patients, and by plain speaking we may sometimes lose that confidence. Our duty is still clear. The honour of our calling is at stake, and we are constrained to utter our suspicions, to warn the immoderate drinker, and to unmask the secret tippler. I may safely say for myself that I cannot recollect one instance out of very many where, by such conduct, I have not only not lost the confidence of such patients, but have not unfrequently gained more than I held before. The slyness and the accompanying moral obliquity of these unhappy persons stand abashed and crushed before a plain and unvarnished charge of the subtle entangling habit. We must yield neither to the gross nor to the astute drinker, otherwise we stultify ourselves, encourage immorality, and bring disgrace and contumely upon our profession. It were well if, as a body, we were well agreed upon certain principles to recommend to those who seek our advice in the matter of stimulants, and it were a better thing still if the public would both ask and act upon our injunctions thus founded.

I presume we are mostly well agreed that stimulants should, as a rule, be always taken at meal times, and only then; and that no person in health should take them till the afternoon at the earliest, supposing conformity to ordinary English meal-times is observed. Herein lies the elementary pathway, I conceive, to reform of our national intemperance. I not only presume, but I am confident, that as a body our profession is unanimous in condemning the modern American habit of taking odd glasses of stimulants at all hours, and laments the grievous multiplication of the means of gratifying this mischievous custom; for truly the conduct of masses of young

business men, in our cities and large towns, in this respect is becoming disgraceful, and the practice is fast gaining in other circles and communities. Our countrymen of these classes have no excuse for this, for they are well fed, and have liquors with their meals in addition to their hourly drams; while Americans, who are notoriously the worst dietitians in the civilised world, are water-drinkers at meal-times.

Again, we are all agreed that children and healthy young persons are best without stimulants, and that the hardiest of our lads need nothing stronger than very small beer with their dinner, even if they really need that. I think we require to exercise great care in our advice on this matter to the descendants of drunkards, and of the subjects of the various neuroses, having regard to the inherited instability of their various orectic centres.

There exists difference of opinion as to the effects of sudden and complete cutting off of stimulants in the persons of hard drinkers and the subjects of acute debauch. Such ought not to exist. There is ample evidence that no serious results will follow such a course. I should consider it bad practice now-a-days to find a patient with delirium tremens treated with any measure of stimulant. It can be, and ought to be, suspended at once; for it is proved to be unnecessary, unless some special complication calls for it. The practice of large hospitals and of our prisons fully confirms me in this opinion.

In conclusion, let me say a few words respecting the attitude of our profession towards the movement for promoting teetotalism. After all I have just uttered, you cannot suppose that this mission can have my approval. I believe that a mission against the drinking habits of all classes and communities conducted upon principles of total abstinence is a hopeless one to embark upon. It is simply to fight the air. Little can, in the nature of things, come of it. A crusade against our grievously prevalent intemperance, an intemperance in strong drinks more or less great in all classes, an intemperance amounting often to

gluttony in respect of unnecessary delicacies amongst the wealthy classes, conducted upon principles of true moderation and sobriety, is a very different matter. In the one case, we have no scientific basis to work from, and we cannot stultify ourselves as medical men by countenancing so vain a mission. As well might we enjoin total abstention from any wholesome and innocent practice. As I have already remarked, I recognise whole classes of cases in which such a practice is proper and advisable. Teetotalism is, therefore, a therapeutic measure for our injunction when necessary or advisable. If the examples set by good people would of themselves avail to rescue the mass of drunkards, England would be amongst the least drunken countries to-day.

In the other case, we can all, as enlightened, thoughtful, and scientific men, combine with vast power to check both intemperance and gluttony, and join hands with our clerical brethren in a mission of reclaiming and warning our erring fellow-countrymen, and, alas, countrywomen too, at once worthy of our art, our patriotism, and our Christianity. It behoves us, as calm-thinking and scientific men, to be very careful how we countenance this wavelet of opinion upon teetotalism; for so surely as we be carried away by any fleeting clamour, and fall in with any cant temporarily prevalent, so surely shall we, sooner or later, see the error we have made, and come to repent of the yoke under which we have put our necks. I flatly refuse to believe that the broad stream of common sense and legitimate freedom in this, or any other like matter, has flowed for centuries in a wrong channel, and that we alone in our day are called upon not only to divert, but to dam it up for all future time.

While I thus venture to express what I believe to be the calm and matured opinion, as well as the rational standpoint, of the profession, I am not here to decry the noble examples of total abstention from strong drinks set by the clergy, and others in conspicuous positions. Such men and women may well go forth, if their

health permit them, to special combat with the vice of drunkenness, fully equipped. We, as a body, are at all events unable to resist the evidence they bear to the effect that their principles *alone*, in many cases, enabled them to reclaim drunkards, and achieve results that would otherwise be impossible.

Since writing this short paper. I have chanced to read an epitome of the medical evidence given before the House of Lords' Committee on Intemperance. In my humble opinion, that evidence was eminently satisfactory. But I feel constrained to offer objection to some of Sir William Gull's statements. "In conditions of fatigue," Sir William is reported to have remarked, "people might very well drink water, or take food, and would be very much better without the alcohol." To me, this seems a venturesome, if not an unfounded, opinion. The statement is, in any case, too bald. It is certainly not in accord with carefully acquired experience in many instances of fatigued conditions. For myself, I may assert that I am fully satisfied of the power of stimulants in states of bodily, cerebral, and cardiac exhaustion. I would not for one moment be understood to recommend recourse to alcoholic stimulus in all cases of exhaustion; but I clearly recognise conditions—not of very common occurrence, certainly—of systemic fatigue which "water" will not allay, and in which the very idea of "food," even to a naturally wholesome and strictly temperate man, at such a moment, is simply loathsome. For such an one to take a glass of wine is to be so far restored as within a short time to be enabled to eat such a meal as without the preliminary stimulant he could

certainly not have faced. That is not an opinion; it is a fact. Another statement of Sir William Gull was to the effect that when he "personally was fatigued, he ate the raisins instead of taking the wine." This is certainly epigrammatical, if not paradoxical, but I venture to deprecate such a method in giving scientific evidence; for the authority of the expert is sure to be requoted, and his opinions will be carried on to various platforms, and possibly receive even a literal interpretation, which, in this particular instance, would, of course, be absurd.

I trust that the remarks which I have had the honour to make at this meeting may be received in the spirit in which they have been offered. As I have already remarked, society is a good deal disturbed and occupied just now with the questions I have touched upon. Much not unnatural warmth and indignation have been imported into discussions upon them, some only so recently as last week, at the Croydon Church Conference. Those who hold fast to the old lines of freedom and moderation are held up to rebuke and disdain, and are even reckoned as enemies to the truths and progress of Christianity. There is, indeed, cause for indignation, and a stirring call to combat the bestial excesses and stupid intemperance which are rife around us; but, if this righteous fervour be laid in proper channels, it will, in my opinion, meet its true enemies in the intricate social habits of the present day, in the sadly increased facilities for drinking which spread around us, and in the ignorance and merely *nominal* Christian lives which are led by many of our countrymen. These are the roots of the upas tree, and to these must the axe be laid.—*British Medical Journal*, Nov. 10, 1877.

(To the Editor of the *British Medical Journal*).

SIR,—Being interested in the question of the administration of alcohol in health and disease, I naturally turned to the paper on this subject

by Dr. Dyce Duckworth in your last issue. The form of the title is in itself a little puzzling. What is meant by the "medical injunction" of stimu-

lants? A *legal* injunction I understand to mean a prohibition having the force of law; but it seems to me that Dr. Duckworth uses the term in the sense of recommendation. After reading the paper three times, I am yet unable to discover in which sense the author uses the word. This may be due to my ignorance, and I am only asking for information.

The paper deals successively with the use of alcohol in disease and in health. After referring to the differences of opinion which exist among medical men as to the use of stimulants, the author says that "no little harm is done to the legitimate influence of medical men by these differences." This introduction naturally leads us to expect that this paper will put an end to such differences. "I have never materially wavered in my opinion," says Dr. Duckworth, and "my opinion is fixed." These two statements seem, however, to be the sole means by which medical unanimity is to be effected; since, besides this I cannot discover anything new in the paper; and, however important these facts may be to the author, it really seems doubtful whether they were worthy of being blazoned in such pretentious style and high-sounding language in the *Journal*. It is difficult for me to understand how an author can "embody what he has to say in a short paper, when he avoids arguments from general principles, and excludes deductions from particular instances." I should have thought that the only way to say *shortly* anything upon a great question was to state the principles which underlie it. And, indeed, in a kind of way, the author seems to do this, although he starts by saying he will not do it; for, so far as I can see, what he has to say upon the administration of alcohol is that there is "no routine in the matter of employing stimulants" in disease. Every case, we are told, is to be judged upon its own merits. This is in its way a sort of general principle, and one which most readers of the *Journal*, one would think, must have known before. Further, the author reaches it by that very enumeration of "par-

ticular instances" deductions from which he says he will exclude. We have the cases enumerated, for instance, of "young persons, of elderly persons, of pneumonia, of pleurisy, the exanthemata, Bright's disease, hepatic affections, gout, heart disease, &c."; and in these, we are told, "the well-trained clinical finger and ear" will discover whether alcohol is required or not. These are, on the whole, very harmless conclusions, and not unsafe in practice; but where was the necessity to precede them by such statements as that it is "discreditable for the medical profession to differ about facts," when just the difficulty is to know what are the facts? Neither does it seem necessary to have raised an incidental discussion as to whether disease does or does not change its type, or to have said that those who think so hold an "exploded theory." And I must plead to some astonishment at the mildness of his conclusions after reading a sentence about waves which "successively represented unstable struggles towards the truth; that one was a Nemesis (!) for its predecessor; and that assuredly all of them have now foamed out their own shame upon the everlasting shores of attained medical truth"!

In the discussion whether alcohol is good or not for the healthy, it seems to me the author is more unfortunate than he is concerning its use in disease, since he appears to contradict himself. Thus he says: "It comes to this, then, that the rational individual must honestly and conscientiously find out for himself what the special needs of his system are;" and, further down he says, "it were a better thing if the public would ask our advice and follow our injunctions." How they can both find out for themselves the special needs of their system, and also follow the injunctions of their medical advisers, I should like Dr. Duckworth to explain.

As I have already said, Dr. Duckworth's opinions, so far as he has already stated them, seem to be sound on the whole; and I wish to give him credit for earnestness in his desire to combat the drinking tendencies of the

time. If these remarks, therefore, seem severe, I must plead as justification a growing repugnance to the bombastic and high-flown expression of opinions which, if true, would have much more

weight if stated in calmer and more modest language.

I am, yours, &c.,

A. C. RABAGLIATI, M.A., M.D.

Bradford, 12th November, 1877.

(To the Editor of the *British Medical Journal*.)

Sir,—As one of the staff of the London Temperance Hospital, may I be permitted to offer a word of explanation respecting the practice of that institution, and a few remarks on the paper of Dr. Dyce Duckworth published in your last number? As a total abstainer, I cannot but express my entire concurrence in many of the opinions therein expressed, such as that alcohol is not required by the healthy nor by children; that sudden abstinence is perfectly safe; that to give any stimulant in delirium tremens is bad practice, and so on; and, if I dwell rather on the points in which we differ, it is because these only need discussion.

To refer again, however, to the treatment of delirium tremens, now spoken of as non-alcoholic as a matter of course, not so very long ago, perhaps in some quarters even yet, this statement would have been regarded as bold, not to say rash; why not now? Is it not because this non-alcoholic treatment has been thoroughly tried and proved a great success? Dr. Duckworth, on the other hand, tells us that alcohol is *necessary* in certain other cases; "must be had resort to" in others. How is the truth of these emphatic statements to be tested if not by a process of excluding alcohol and noting the results? Since, then, I can most decidedly attest that I have treated, and seen treated, some of all those cases for which he states that alcohol is necessary, without a drop of alcohol of any form, not only once, but again and again, and with perfect success, it follows that his statement is erroneous. All that remains is to discover, by careful comparison of cases, and, above all, by patient accumulation of results, which

plan permits of most recoveries. My own experience of the last five years has convinced me that I was mistaken when I held much the same views as Dr. Duckworth. It is clear that there should be "no routine" in giving alcohol, a danger into which, I fear, many have fallen. I very much question, however, whether, until we know more of the *modus operandi* of alcohol as a stimulant, and more of the pathological and functional changes in many diseases, we shall be able to judge of the value of alcohol otherwise than by a true experience of its action tested both positively and negatively. If it be administered as a drug in a pure form, in proper doses of known strength, mixed without the patient's knowledge, as we give its cogeners, it is clear that all its value will be obtained without detriment to the patient. The danger from alcohol, opium, chloral, &c., is when people take to dosing themselves and easily create a feeling of necessity for another and larger dose.

But the public ask us what they ought to drink habitually. It seems to me a duty to tell them that water is perfectly safe for people in health; that a very little alcohol may be harmless, but that no general line can be fixed where harm begins. No living man can guarantee that no harm shall result from a very small dose daily repeated; and, as to judging for oneself, the worst of it is that no outward sign will indicate when the mischief begins until it is done, and even then its effects will often be such that it will be impossible to speak positively in any one case. The *general tendency* of moderate drinking is such that life is shortened, as the tables of the United Kingdom General and Tem-

perance Provident Institution amply show. All the profession need do is to say that total abstainers are safe, moderate drinkers are more or less unsafe; common sense will supply the conclusion.

If most people are not leading normal lives, the obvious course is to point out to them the abnormality, and, if they cannot, or will not, alter, it by no means follows that alcohol will counteract the mistake, though it may mask or remove some of the warning symptoms.

My extensive experience of total abstainers is decidedly opposed to the idea that they are larger eaters than others. The appetite of many greatly improves at first, because their digestive organs are relieved; often, they thereby over-indulge, and are then told that total abstinence does not agree with them. But confirmed abstainers do not eat more; let the Turkish soldiers be witnesses.

I cannot but think that the recommendation to vary the amount of alcohol taken according to the felt neces-

sity is fraught with extreme danger, as opening the way to real excess and drink-craving.

The recommendation of general teetotalism is urged because the advocacy of moderation has proved a failure: in Dr. Duckworth's words, "if the examples (of moderation) set by good people would of themselves avail to rescue the mass of drunkards, England would be amongst the least drunken countries to-day." If the same good people would set the example of total abstinence, who can deny that we should be much nearer such a desirable goal? And, as the example of an abstaining medical man is far more potent as a guarantee of safety in the practice than that of any other person, I fail to see how we shall stultify ourselves by recommending such a beneficent practice. Many thousands have proved it to be perfectly safe. Let us deal with deviations from health as they arise.

I am, sir, yours obediently,

J. JAMES RIDGE, M.D.

Enfield, November, 1877.



MEDICAL EVIDENCE BEFORE THE LORDS' COMMITTEE ON INTEMPERANCE.

(From the LANCET, October 13, 1877.)

WHEN the Select Committee of the Lords was appointed for the purpose of inquiring into the prevalence of habits of intemperance and into the manner in which these habits have been affected by recent legislation and other causes, we were much pleased. No subject is more worthy of consideration by the best Committee that can be appointed by either House. One of our chief anxieties was that the Committee, in taking evidence, should not omit to take medical evidence. In various ways we gave expression to this wish. We are glad to see by the third Report from the Committee that this suggestion has been acted upon.

There has probably never been so complete and exhaustive a mass of evidence on the subject of intemperance as these Reports will, when completed, contain; and we may safely venture to say that, in point of interest and importance, the evidence of the medical witnesses will compare favourably with that given by any other class of witnesses. The medical witnesses examined up to the end of the recent session were Sir William Gull, Dr. Burdon-Sanderson, and Dr. Lauder Brunton. This selection, as far as it goes, is good; but we trust the Committee, before it closes its sittings, will be careful to take the evidence of other medical

and pathological authorities, including that of general practitioners in various kinds of communities, in large towns, small towns, and country districts. It is probable that such witnesses would be able to throw considerable light on the extent to which habits of intemperance prevail, and on the causes of it where it does prevail. Meantime we shall give our readers a short account of the medical evidence already given by the three witnesses named, who have testified on this most momentous subject as scientific men who hold scales in their hands with which to weigh questions of a social and medical character impartially. We shall give the substance of the evidence of the witnesses, and give it in the order in which they were examined by the Committee.

Dr. Lauder Brunton said the popular notion of taking "a good stiff glass of brandy to keep yourself warm" was quite a delusion, supporting his opinion by reference to the lumberers in Canada, who during winter will not allow spirits to be kept in the camp, and to the experience of Arctic expeditions, and also to a rarely scientific gamekeeper to whom Sir Joseph Fayer offered a drink from his flask one day while deerstalking, and who refused, saying, "No, sir, it is too cold." He thought that a tired man before beginning his meal might get good from a glass of wine, and that "often alcohol taken with warm water at night, especially by a person who is cold, is an excellent means of bringing on a comfortable sleep," acting thus by dilating the blood-vessels of the body generally, and so producing anæmia of the brain, on which sleep greatly depends. But he added, "If a man eats well and sleeps well he does not require alcohol, and he is better without it." He referred to experiments showing that alcohol retards the growth of young animals. He urged that great pains should be taken to relieve the craving of drunkards by other than alcoholic means, quoting his favourite story of an observation by an old drunkard—a Scotchman: "The neighbours aye speak of

my drinking, but they never speak of my drouth." He referred to a paper by Dr. Doyle, read to the Obstetrical Society, maintaining that drinking in women was often associated with a disordered or diseased condition of the uterus. Referring to drunkards who drink in fits, he compared their bouts to epilepsy, and mentioned two or three cases in which the anti-epileptic treatment was very successful. He recommended as substitutes for drink, and as a remedy for the "craving," carbonate of ammonia with gentian, with a little tincture of capsicum; in the intervals of the craving general tonics, especially iron. He mentioned that alcohol was a true food, "an inconvenient food in health, but a very convenient food in fevers." Therapeutically he regarded alcohol as one of our most valuable remedies. As regards restraint of drunkards he thought a power of detention should be given, and that if you could keep a drunkard twelve months from drink he might be able thereafter to do without it.

Dr. Burdon-Sanderson concurred in every point of Dr. Brunton's evidence. He said it was "clearly established" that two ounces of pure alcohol was the limit which an ordinary man can take so as to have it used or oxidised; when not oxidised it accumulates, and so becomes injurious. Alcoholism, in its various forms, was the ultimate result of non-combustion or non-oxidation of alcohol. In this sense—the sense of being oxidisable, and so saving tissue, up to the amount of two ounces in the twenty-four hours—Dr. Sanderson maintained that alcohol was a food. As a food it was capable of conversion into heat. "The only use that we know it can be put to is that of combustion. At the same time the question remains open whether it may not be converted into other kinds of force." He admitted that alcohol, in a way different from all other kinds of food, deteriorated the organs; and that though a man might oxidise two ounces of alcohol, he certainly would not recommend him to take it; that quantity would be altogether inadmissible as a frequent dose. He would

not recommend alcohol to a healthy man. He said that it exhilarated and promoted circulation. "In cases of illness, particularly fevers, it was quite indispensable." Asked whether one ought to encourage or discourage its use, he said, "My belief is that upon the whole the human race would be situated just as favourably if the use of alcohol did not exist." He expressed himself emphatically in opposition to the legislative prohibition of the use of alcohol. The adaptedness of alcohol to the condition of fever consists in this—that a person when in fever does not require to exercise much muscular power, but he does require to keep up his temperature, and he must have the materials for this purpose; and, as Dr. Brunton explained, alcohol serves as a substitute for tissues of the body. Alcohol was injurious when taken in cases of prolonged muscular exertion, and in cases of exposure to cold.

Sir William Gull, in his evidence, gave an account of the history of medical doctrine as to the use of alcohol, including Dr. Todd's—that diseases were chiefly due to debility, and required alcohol almost universally. Since then there had been a great change. At present we regard much "the physiological course" of disease, and believe that alcohol has a value, but only a subordinate one, chiefly that of a sedative of the nervous system, calming the patient, till by natural processes he is cured. The principal illustration of the use of alcohol taken by Sir William was in the case of typhoid fever with high temperature or uncontrollable delirium, and when opium would be injurious, and probably fatal. Though Sir William thinks we could not do without alcohol as a drug, "it is still over-prescribed."

In conditions of fatigue, Sir William thought that instead of flying to alcohol, people might very well drink water, or take food, and would be very much better without the alcohol. "If I am fatigued personally, my food is very simple. I eat the raisins instead of taking the wine. I have had very large experience in that for thirty

years." He "thinks" a man occupied in the open air, doing a good deal of work, would find "some beer" a good form of food. But he "thinks beer is overdone." "In the case of Barclay and Perkins's draymen you can see how it is overdone." Sir William thought that a moderately healthy person, so far from being benefited by alcohol, would be injured "as regards the intellect All alcohol, and all things of an alcoholic nature, injure the nerve-tissues *pro tempore*, if not altogether, and are certainly deleterious to the health. . . . I should say, from my experience, that alcohol is the most destructive agent that we are aware of in this country. . . . I think there is a great deal of injury being done by the use of alcohol in what is supposed by the consumer to be a most moderate quantity, to people who are not in the least intemperate, to people supposed to be fairly well. It leads to degeneration of tissues. It spoils the health and it spoils the intellect. . . . I do not think it is known how alcohol acts on the human body, but I know it is a most deleterious poison. . . . I would like to say that a very large number of people in society are dying day by day poisoned by alcohol, but not supposed to be poisoned by it." As to breaking off the supply of alcohol to persons suffering from alcoholism, Sir William gave a very clear note. "I should not be afraid to stop it altogether in most cases. I should think it highly desirable to stop it altogether. Of course it depends upon the age of the patient, and the likelihood of doing him any good at all. It produces many diseases of the liver, from which arise disordered conditions of the blood, then diseased kidneys, diseased nervous system, or gout, or diseased heart. . . . I hardly know any more potent cause of disease than alcohol." Sir William said in the higher classes there is great temperance, more abstinence than in the middle classes. He could not, from his own experience, assert that drinking among women was increasing. Drinking between meals he condemned absolutely as "most injurious;" also

the "eleven o'clock beer" of servants, remarking that domestic male servants are amongst the most unhealthy classes of the population, only to be cured by abstinence and purging. He magnified water as "of all diluents and solvents of foods" the best. On the question of restraint he spoke diffidently. He distinguished carefully between an habitual drunkard and a dipsomaniac, heredity attaching not to mere drunkenness, but to mental defect leading to it. He advocated punishing a mere drunkard, and doing it early. He would publish the name of a man found drunk, and if found a second or more times, he would put the number of times opposite his name for public reprobation, although quite aware that society would not at present agree with him in this. Sir William Gull is of opinion that the whole question of drunkenness cannot be dealt with by legislation, but must be dealt with by society at large, by better knowledge of the disadvantage of stimulants, and by a better moral condition of the whole of society.

We have long felt, and sometimes said, that statesmen will never realise the gravity of the drink question till they put themselves in the way of getting some information about it from medical men. We feel thankful to the medical witnesses already examined by the Lords' Committee for the masterly and clear way in which they have spoken. They all express what we believe to be the very general view of the profession, that alcohol as a medicine is indispensable, but that for people in health alcohol is, to say the least, perfectly dispensable, if not undesirable. Sir William Gull's evidence may seem too strongly biased against the customary ways of taking alcohol, but if considered carefully and as a whole, it must be admitted to be an admirable statement of the views of the best practitioners. We should recommend temperance societies to distribute broadcast the medical evidence, and especially that of

Sir William Gull. It will be all the more influential for not going the whole length of "teetotalers," though we gather that Sir William in his personal habits is not much at variance with them. But the warning that he gives of the number of respectable people, "not intemperate," that are dying day by day of alcohol, comes from a large experience, and cannot be disregarded. We entirely endorse his opinion on this point. Practically the question, from a physiological and medical view, is settled. We cannot dispense with alcohol in medicine. There are medical men, indeed, who believe otherwise, and who maintain that disease, even fevers, are better treated without alcohol. We shall hear more of this doctrine; but, in the meantime, practically alcohol is regarded by nine men out of ten as a most valuable medicine, to be used with discrimination. But the time has fully come when any medical man prescribing it carelessly or indiscriminately will be blamed by the general judgment of the profession, both from an ethical and a scientific point of view. Then, as to the physiological or ordinary use, Dr. Brunton, Dr. Sanderson, and Sir William Gull enunciate views which tend to reduce the value of it for healthy people to a minimum. If Sir William Gull is right in thinking that a great deal of injury is done by the use of alcohol in what is considered a most moderate quantity, what shall we say of the injury that is done by the "soaking" use of alcohol which is involved in taking it between meals, before breakfast, and at all sorts of odd times? We defer to another occasion any discussion of the duty of the Legislature in regard to this question; meantime we urge upon every medical man the duty of never prescribing alcohol without considering his responsibility, and upon every sensible man the necessity of *not* relying upon it for supplying material for making blood or tissue.

(From the TEMPERANCE RECORD.)

THE third report of the Peers' Committee on Intemperance, with the minutes of evidence, and appended documents, has, as our readers know, been given to the public. It is only with that part of the body of evidence which relates to the medical aspects of the subject that we have at present to do. This is set forth in the statements made by Drs. Thomas Lauder Brunton, John Burdon Sanderson, and Sir William Gull.

Dr. Brunton expressed the opinion "that alcohol in small doses, when swallowed, somewhat increases the secretion of the stomach, and thereby aids digestion;" after which it is absorbed into the blood, dilates the vessels, and sends the interior blood to the surface, with a pleasant feeling of warmth. This, however, he owned to be quite superficial, and led to greater cooling and chilling; and that to "take a good stiff glass of brandy to keep yourself warm was quite a delusion." His theory on this head was in accord with the teachings of Dr. Richardson, and he referred, for practical confirmation, to the practice of the Canadian lumberers and of the Arctic voyagers.

Brought back to the little dose, and asked if it would be of use for "impaired digestion," he replied, "Very useful. If a man is perfectly healthy, he does not require spirits or wine, he can do without them; but if he is at all weak, even temporarily, they are useful. If, for example, he has been working hard all day, when he goes home his stomach is exhausted, just like the rest of the body, and when he puts food into it, it is not digested; whereas, if he takes a glass of wine first, and more especially if he allows a few minutes for the wine to act upon the stomach, it begins to secrete the gastric juice which digests the food, and he will get his food digested comfortably; otherwise the food will possibly, for an hour or an hour and a-half or more, lie heavily on his stomach undigested, and do him no good." We are amazed at this deliverance. It reminds us of the prodigious armaments that overawe us—*on paper*! It

is a most inviting theory. "He will get his food digested comfortably." All is comfortable and nice; and there is no drawback. On the contrary, if this is not done, all the terrors of a loaded stomach for hours are arrayed before us.

But most ominously, as we go forward a little in the evidence, the same eminent authority says (9,270): "We know when we take a little brandy into the mouth that it irritates it very strongly, and the same is the case when it is in the stomach; the stomach is coated with thick mucus, and becomes much irritated, and even ulceration will take place;" and then he refers, in illustration, to the well-known case of the Canadian, Alexis St. Martin, who had got daylight driven into his stomach by a gunshot wound, and who was experimented on to such excellent purpose by Dr. Beaumont. Now "look on this picture and then on that." In the former case (9,257) Dr. Brunton's little dose is a very angel; but here, in the same prestodigitative hand, the angel has become an imp. In that case it dispensed comfort, raised the prostrate, and strengthened the weak. In this case "it irritates the stomach very strongly," just as, in passing in through the gateway of the mouth, it bites the tongue and palate very viciously. "Thick mucus" coats the stomach, which "becomes much irritated," and "even ulceration will take place."

Nay, more; in looking more closely into the theory that has inspired this seemingly-conflicting evidence, we see that Dr. Brunton has not in reality contradicted himself. We may still, indeed, appeal from Philip drunk to Philip sober; but it will be for a more effective end than merely to convict of inconsistency; it will rather be to prove a consistency that confutes itself. For whence came all the "comfort" of "9,257"? Simply and solely from the "strong irritation" of "9,270." The exhausted stomach, like a jaded nag, gets a sharp cut of the whip, and it pays out in irritation and terror its last doit, if need be, of

vital force in response. It turns out, then, that we have to pay for all that comfort; and it remains, therefore, both a competent and a very rational question with us, whether the stomach had not better bear an extra load for an hour or two, and keep its skin sound than have the scourge applied to it to "much irritation," which might go the length of "even ulceration." Of course it is not "much irritation" that is meant in case of the little digestive dose, but still it is irritation; and it is just because it is irritation that it does the good that is alleged. We leave it, therefore, to any man to say whether he would not rather allow his back to ache a little, if ache it must, under a heavy load for an extra hour, than have it lacerated by the infliction of "forty stripes save one."

But where is the need for all this excessive concern for the stomach after an exhaustive day's work? We utterly deny that the stomach is weakened in the same sense and to the same extent as the working members engaged in the toils of the day. On the contrary, the stomach has rather been enjoying rest and respite, and needful relief, in its own peculiar and proper work of digestion; and though it no doubt shares in the general prostration of the body when that becomes excessive, it is only when it is excessive, and even then it shares only in a minor degree. Hence the wise course in such a case in returning home after such exhausting toil is to abstain equally from heavy meals and from intoxicants, and be content, after a little pause, if "need" be, with a light, wholesome meal, if meal it may be called, and depend mainly on the night's rest, which will set all right in the morning. Very instructive on this head was the experience of George Easton, as recorded in his autobiography, and of his fellow-labourers, in stemming the inundations of the Ewes River in the southern parts of Scotland. The work and exposure in the winter, standing all day in the water, was excessive. Whisky was given them most liberally. They drank freely

the first week, with effects that made them determine, the second, to take no more while at work, but wait till night and have a warm glass of toddy before going to bed. Here was the very case where the alleged good would be done to the prostrated powers of digestion; but did they find it so? The very opposite. Hence they next resolved that they would abstain from the drink entirely till the job was done, and have a grand spree at the close. This last fact vouches for the entire freedom from teetotal fanaticism possessed by those native sons of rustic toil.

Dr. Brunton's evidence, as a whole, must not be judged by the foregoing samples. It is extremely interesting and instructive, and very preponderatingly in the direction of the great ends of temperance. Specially interesting are his statements on a subject which he has made peculiar matter of study—the intense drink craving and its causes; and how it is to be met. He quotes an old drunken Scotchman as having much impressed him with the remark, "The neighbours aye spoke of my drinking, but they never spoke of my drouth" (that is, thirst). He is of opinion that these imperious cravings are due to particular states of the stomach, and "may be very often associated with a catarrhal condition," and that these conditions should be carefully investigated with a view to appropriate remedies. Particular organs (as in the case of women) would, under peculiar conditions, induce this craving. In drunkards these cravings often overtook them in fits, leading to four or five days' drinking, after which came an interval of some length, when the fit returned. This suggested the essential identity of these cases with epilepsy, which recurs in fits after intervals, and sometimes these "fits are replaced by maniacal conditions." On the question of counteractives to this craving, he made interesting reference to the well-known Mr. John Vine Hall, author of "The Sinner's Friend," and to the prescription he used for that end, which was very much "a simple iron tonic with a little magnesia in it."

When questioned on the subject of the combustion of alcohol in the body as maintained by Liebig, he answered in the affirmative, "and commended, accordingly, the use of alcohol in fevers, on the ground that "in fevers, when the body is burning off too quickly," alcohol is good, both as preventing that combustion, and as "keeping up the heat by taking the place of what is burnt off in those tissues." Here, again, we have a fine imposing physiological force—on paper. The grounds of fact on which this theory is reared are precarious in the extreme; while, on the grand determining test of experience, we appeal from that and all other theories to the experimental results of Professor Gairdner's opposite treatment by milk and simple nutrients in the Royal Infirmary of Glasgow, which show an immense reduction in the fatality of fever cases so treated as compared with those treated on the old and still too common method of what Trousseau calls "incendiary medication."

Dr. Brunton sanctions the use of alcohol "as a luxury," but only if taken in very small quantities. How small he did not say, beyond referring, with approval, to Dr. Parkes' declaration, founded on experiment, that, if more than two ounces of absolute alcohol, *i.e.* four ounces of proof spirit (equal to two wineglasses of whisky or brandy) were taken daily, it would prove injurious. Would it not be much safer doctrine to infer that it is injurious natively and from the very first, and that it is only when it is carried to the above-mentioned degree that the injurious effects come to reveal themselves in an unmistakable manner?

Turning to Dr. Sanderson's evidence, he starts with the homologation of Dr. Brunton's evidence "in every point." He declares for the conversion or combustion of alcohol in the system. He goes equally against Liebig, who maintained that it was changed into aldehyde, and against the Parisian doctrine of 1860, that it was eliminated entirely unchanged. He holds that, taken in small doses—two ounces of pure alcohol, as above

stated—it is all converted, not into aldehyde, but, by pure combustion, into carbonic acid and water; and that, if taken in more than that quantity daily, it is, or may be, eliminated unchanged. It is only in the former quantity, when it can be entirely burned, that it is beneficial. Above that, it is injurious. The alleged benefit consists in ministering to animal heat. Unlike fat, which may be partly burned, and partly laid up in the system, alcohol must be wholly burned, or the remainder will go out, for laid up in the system it cannot be. Professor Binz is referred to as the main authority for these positions. We shall only say that we know of no experimental investigation which at all warrants Dr. Sanderson in affirming these two statements following as equally incontrovertible:—"It is perfectly clear that alcohol does not go to build up any tissue in the body; on the other hand, it is equally clear that it is used; therefore we must conclude that it is used just in the same way as other similar bodies are used, for the purpose of respiration." This is in point-blank opposition to the results experimentally reached by Dr. B. W. Richardson, to which, however, no allusion whatever is made.

Dr. Sanderson so often refers to the previous evidence by Dr. Brunton as superseding the necessity of his answering this or that question more fully, that it will not be needful for us to enter at large into his statements. On one point we quote him the rather because it coincides with sentiments expressed by Dr. Brunton which we did not quote—namely, on the worse than uselessness of alcohol in the case of cold. He says: "I quite agree with Dr. Brunton as to the explanation which has been given of the effect of alcohol in the event of exposure to cold, namely, that the specific effect of alcohol upon the circulation is to cause what may be called a determination of blood to the superficial parts, the result of which is that the whole mass of the blood becomes more cooled than it would otherwise be; that, in fact, the more blood you send to the superficial parts the more

rapidly the whole mass of the blood is cooled, and consequently the whole temperature of the body lowered. In exposure to cold, the danger arises from the general sinking of the mean temperature of the body; danger begins at the moment that the body is no longer able to maintain its normal temperature. That was well illustrated, for example, in the experiment which was made of swimming across the Channel some short time ago, when the difficulty arose entirely from the circumstance that the swimmer's temperature sank below the normal; the moment the general temperature of the body sinks below the normal, danger to life ensues" (9,390). This, with subsequent explanations, is extremely lucid and forcible, and along with the equally clear and cogent explanations of Dr. Brunton, constitute a valuable boon to the cause of temperance, and, we may add, of public safety.

Dr. Sanderson "quite admitted" that, "treating alcohol as a kind of food, there is no other food which deteriorates the organs almost of necessity in its use;" and with reference to that dose of two ounces daily, though it could to that extent be oxidised, he would by no means "recommend a man to continue the process." He would give other food. "Such a quantity as I mentioned," he says, "would be altogether inadmissible as a frequent dose, but that quantity is the largest which has been found by experiments to be capable of being disintegrated in the body without being discharged as alcohol" (9,406-9408). This very much reduces the beneficial little dose, if not to absurdity, at least to an extremely suspicious minimum; and whoever is wise will do well to let it alone.

On the general subject of the utility, or otherwise, of alcohol to the human race, Dr. Sanderson says:—"My belief is that, upon the whole, the human race would be situated just as favourably if the use of alcohol did not exist. I think that for two reasons. In the first place, because the evils certainly preponderate over the benefits, this is certainly one reason; and

the other consideration is simply that all the benefits are dispensable benefits. There is no benefit which we derive from alcohol in a state of health which we could not do without, although we could not possibly do without the use of alcohol in disease. There is no remedy which is likely to be introduced, certainly no remedy which exists which could possibly supplement the use of alcohol, particularly in fevers." (9,398.)

The former part of this statement, denying the need for alcohol in health, will have its value, and ought to have its legitimate effect. The latter part, relating to disease, strongly confirms the conviction which has often been forced upon us, that medical men are prone to become the victims of plausible theory or inveterate use and wont, and to hazard on the strength of these unsound fundamentals much too oracular statements. We have no objection and no prejudice whatever against the use of alcohol as a medicine; but when we compare the very strong statements on this point contained in the closing sentence of the above extract, with the remarkable and directly counter facts in regard to fevers arrayed by Professor Gairdner, of Glasgow, and others, demonstrating the enormous superiority of the non-alcoholic method of treatment, even in the much-paraded case of fever, the main effect on our mind of these exaggerative statements is precisely the opposite of the impression intended; it is rather to discredit altogether the pretensions of alcohol, even as a medicine.

We now proceed to notice that of the only remaining medical witness, Sir William Gull.

In answer to a question by the Archbishop of York in regard to changes in medical practice, Sir William said:—"There has been just this change: Forty years ago wine was moderately used, and so was brandy. Then there came a change, owing chiefly, I think, to the school of King's College, headed by Dr. Todd. His theory was that diseases were chiefly due to debility, and required alcohol almost universally." In answer to

another question as to whether "Dr. Todd held that that was a constant condition of diseases," Sir William expressed the belief that he did, and added: — "Formerly diseases were divided into two classes, viz., phlogistic and antiphlogistic. Dr. Todd's theory was that all diseases were weak or antiphlogistic, and his treatment, therefore, was always with brandy, or, at least, I should say almost universally in cases of acute disease. Since that time there has been again a great change. On being asked the date of the maximum use of alcohol, he replied: "About twenty years ago." Since then the method has rather been to allow a disease to run its physiological course without alcohol, except as a sedative; and that, therefore, its value as a medicine is of a very subordinate character. In contrariety to the other two medical witnesses, he stated that "it was constantly his practice at Guy's Hospital, if he had young subjects, not to give alcohol"; and that this he did for ends of experiment, and for the good of his students, that they might see for themselves. In this way he had cured many young typhus patients under twenty-five years of age, with no other remedy than camomile tea and light diet. On alcohol as a drug, he is by no means very laudatory. He thinks other things would often do as well, and that "frequently we should do better without it." On the subject of exhaustion, he says: "I think that instead of flying to alcohol, as many people do when they are exhausted, they might very well drink water, or that they might very well take food, and would be very much better without the alcohol." Referring to his own personal experience, he says: "If I am fatigued with overwork personally, my food is very simple. I eat the raisins instead of taking the wine. I have had very large experience in that practice for thirty years. It is my own personal experience, and I have recommended it to my personal friends." (9,975—9,995).

On the subject of beer, Sir William seems over-concessive; but it is only in favour of those people who toil

much out of doors, and it is in proportion to its containing almost a nihility of alcohol. "My belief is," he says, "that beer is overdone. In the case of Barclay and Perkins' draymen, you can see how beer is overdone." Though his practice was mostly among the upper classes, "he had lived near Barclay and Perkins' brewery for near twenty years," and he testified to the enormous quantities, amounting to several gallons in a day, which the men consumed. "They drink their heavy stout till they get ill." "Coalheavers drink and eat enormously." (9,996—10,003).

In reply to a question whether wine or alcohol were helpful to mental effort, Sir William answered strongly in the negative, and also testified to the injurious effects of moderate drinking: "I should say that one of the commonest things in our society is that people are injured by drink without being drunkards. It goes on so quietly that it is very difficult to observe even"—though quite manifest to the professional eye. He refers to a medical man he was sent for to visit, as quite alcoholised, in delirium tremens, and as yellow as a lemon. On coming downstairs Sir William spoke of him to the wife as an habitual drunkard. She protested, in astonishment, that her husband had only drunk water. He had all the while been drinking on the sly. Sir William pronounced alcohol "the most destructive agent we are aware of in this country" (10,005—10,015).

Sir William entirely endorsed the medical evidence already given in regard to alcohol under cold. In the general, he affirmed that it was quite uncalled for till mid-life, or later, but he left it an open question whether it might not, in cases of sluggish circulation, be allowed to the aged, on the same principle as fire, or extra warmth. In disease, if he used it, it would be as a sedative. He pronounced it "a most deleterious poison"; and he gave it as his opinion that it might be safely in any case "stopped altogether" (10,025—10,035).

The Archbishop of Canterbury made

reference to the London Temperance Hospital recently commenced under such promising auspices, and which has already had some encouraging experience. Sir William knew of the hospital and of its practice, but could say nothing more in regard to it. He added, however—and we are glad to note it as an indication of the moral effect of our institutions—“we do very much without alcohol in our large hospitals” (10,047).

Some very interesting evidence was advanced by Sir William in regard to the prevalence of drinking, in whatever strata of society. He does not think intemperance is increasing. He “really cannot say from his own experience” that female intemperance is on the increase, though he knows some doleful cases; and he expresses the strong opinion that the vice is much less prevalent among the upper than among the middle and lower classes. In reply to the Archbishop of York, he thinks lecturing to the masses would be most desirable; but, in reply to His Grace’s further question, whether that could not be done by temperance societies, Sir William said:—“People will not listen to them, because they go too far.” If Sir William will examine into the matter further, he will find that on such a theme there are thousands and myriads of the common people who hear us gladly, and that the total abstinence community has long been numerable by millions. “On the eleven o’clock beer,” and all such practices, and of drinking between meals particularly, Sir William speaks in most condemnatory terms. He classes domestic male servants amongst the unhealthy classes of the population, the cause being excess in eating and drinking—the one remedy for them being “abstinence and purging.” He makes the following very instructive and suggestive observations:—“I should like to say that of all known things in the world the human body is the most economic, and therefore all excess is against its physiological nature. Science has not yet shown how to get as much force out of matter as the living body can. A small

amount of meat and bread yield much muscular force. Excess is contrary to nature. Two laws are written very plainly in the human body. The first is of labour or function. The parts are made for labour. The next law is of economy. With it the functions of the body are best carried on. In this country persons very rarely suffer from want; but they constantly suffer from excess” (10,059).

The questions then ran in the direction of inebriate asylums. Here Sir William gives expression to sentiments that somewhat surprise us, especially when he says that a dipsomaniac might be as likely to become sober in a few weeks as after twelve or eighteen months. But this, and some other doubtful things, were more intelligible to us when, on being asked if he had visited any of those institutions, he candidly replied, “I have had no experience of them.” The facts connected with the American asylums and retreats appear to have settled that question beyond all controversy as to the necessity of prolonged detention, and the undoubted good that has been done where this method has been pursued.

Some attempts were made by the noble interrogators to draw him into a condemnation of the London water; and, of course, into some alcoholic substitute; but Sir William was firm. He stuck to the water he had in common with his neighbours, only with this proviso—that he filtered it. On being asked if it would not be better to boil it, he admitted that in some respects it might, as it would save us the trouble of digesting the animalcules. As regards drinks to be used in fields, or at hot public works, Sir William declared stoutly for “skilly” or oatmeal-and-water as the best. Other parts of the evidence were a return to what had been previously said. He reiterated his testimony in favour of the upper classes; and, while admitting cases on which sensational articles might be written, he denied, so far as his own experience went, that the “drawing-room alcoholisation” affirmed in “a well-known newspaper” was a fair representation

of any prevailing state of things. On the subject of special trades in which intemperance prevails, he, of course, mentioned licensed victuallers, in connection with which he related the following :—

“ I was in a train on one occasion when a clergyman was present in the same compartment. He did not know who I was. I had been upon my holiday trip, and I was not dressed exactly as I should be in London. He said, ‘ You are looking very well,’ and I said that I was well. He said, ‘ Are you a teetotaler?’ I said I was not a teetotaler. He said, ‘ Then I would advise you to become one.’ I said, ‘ I do not think I shall; I am always very abstemious’; but I added, ‘ I will help you with some arguments for your teetotalism. Will you, if you have any friends in Parliament, ask for a return of the history of the

Monarch Life Assurance Society? The Monarch Life Assurance Society was established many years ago by the licensed victuallers to insure each others’ lives, and it would be an interesting thing to know the result of that.’ That Society, I may say, did not exist long. I then went on to say, ‘ If you have any friends in Parliament, will you get them to ask for a return of the number of widows who keep public-houses in England, or who have been married a second time?’ It is very curious that if one goes to a country inn, it is generally kept by a widow, or the mistress has been married a second time. Though I believe that the licensed victualler’s trade is a respectable trade, yet if asked if there are not overwhelming temptations in different lines of it, I should have to answer undoubtedly, ‘ Yes.’ ” (10, 120).



PHYSIOLOGICAL AND MEDICAL EFFECTS OF ALCOHOL.

(*From the BRITISH MEDICAL JOURNAL, Dec. 15.*)

THE third report of the Select Committee of the House of Lords on Intemperance brings before us the interesting fact that, notwithstanding the immense amount of evidence they have taken on the subject, the Committee have not yet been able to frame a report; and, consequently, they express the hope that they may be permitted to resume their inquiry during the next session. It was hardly to be expected that they could consider the inquiry closed. The magnitude of the interests involved, the difference of opinion, both medical and lay, as to the proper uses of alcohol, and the unfortunate spirit of partisanship which has been introduced into the inquiry by otherwise impartial investigators, have all operated as causes of difficulty in the way of framing a comprehensive report. For our part, we are not much interested in the question whether a hundred and thirty or a hundred and

fifty millions sterling are spent annually on alcoholic drinks, nor does it directly concern us how much of this large sum is profit. If the people of Great Britain and Ireland consume annually eleven hundred million gallons of beer, it may almost be taken for granted that they derive some benefit from the consumption; and it is not asserted that more than two hundred million gallons of this quantity should be attributed to intemperance, while only nine of the forty-three million gallons of spirits consumed are referred to this category. It is, no doubt, an interesting fact that the increase in the consumption of proof spirit, for the twenty years ending 1875, is only twenty-four per cent. greater than it was in 1856, and one which may be taken as a refutation of the common statement that drinking is largely on the increase among us. We are pleased also to record the authority of Sir William Gull for a

statement, which we have more than once made on our own part, that the amount of drinking among ladies of the upper classes is greatly exaggerated by temperance orators and a certain number of medical and other writers.

It is not, however, the economic aspect of this question, nor even the social aspect, deeply important as these no doubt are, with which we have at present to do. The physiological and medical effects of alcohol are those which here especially concern us; and it is to this part of the subject that we wish now particularly to turn attention. This third report lays before us the evidence of two eminent physiologists and of one practising physician; and the first thing which strikes us is the unanimity with which all three speak of the usefulness of alcohol in medical practice. These three witnesses are also agreed that persons in health are better without the use of alcohol; although neither Dr. Lauder Brunton nor Dr. Burdon Sanderson went so far as to say that a small quantity of alcohol was, generally speaking, absolutely injurious. Thirdly, we observe in this evidence a repetition of the statements that alcohol is injurious in excessive cold, and, as a rule, in excessive heat also. The men who have served in Arctic expeditions have, of their own accord, preferred hot coffee to hot rum, finding that the former supplied heat which really enabled them to withstand the cold, while the latter supplied only a very temporary and evanescent stimulus, which, on passing off, left them worse than they were before. As regards the use of alcohol in excessive heat, Dr. Brunton refers us to the Ashantee expedition. During the march, liquor was found to be disadvantageous; but after the march was over, when the men sat down at their camp-fire for their evening meal, they found the advantage of a little rum; because the rum stimulated their stomachs, and assisted them to digest their food. But it was noticed that the young men did not care so much for the rum, often not taking their full allowance; while the older men, in whom the processes of life are less active, wanted

all their own allowance, and would take also the allowance of a neighbour, if he would give it to them.

As to the question, whether alcohol is utilised in the system, there is also practical agreement; and it seems to be now pretty generally accepted that an average man will utilise in his economy a variable quantity of alcohol, the average amount being about two ounces daily. A larger quantity than this will indicate its presence by the elimination of alcohol in the breath and in other ways. Lastly, with some slight differences of detail, the medical witnesses are practically agreed as to the effects of the abuse of alcohol. Sir W. Gull's statement is, that its abuse produces disorders of the liver. From disordered liver, we get disordered blood, and, consequent upon that, we get diseased kidneys and diseased lungs. Then we get diseased heart and nervous system. The general effects are no doubt, first, congestion of these organs; next, increase of their fibrous tissue, which presses upon the secreting cells and induces general atrophy and fattiness.

Respecting the conditions in which the administration of alcohol is useful, we come upon a slight difference of opinion between Sir W. Gull and the other witnesses, he preferring to name as a sedative what they characterise as a stimulant. We think that alcohol will act as one or other, according to the condition in which it is administered. In the case which Sir W. Gull supposes, of very high and uncontrollable delirium in early typhoid, alcohol no doubt calms and quiets the patient, and this action may fairly be called sedative. Similarly, in the later high fever spoken of by Dr. Brunton, alcohol may be useful to lower the pulse and the temperature. There is, however, this difference between these two actions, that the former is not generally obtained until a rather large quantity of alcohol has been administered, while the pulse and temperature are generally lowered by smaller quantities. In the latter case, the reduction of pulse and temperature is probably induced by the combustion of the alcohol

itself in place of that of the tissues. The delirium is calmed, on the other hand, probably by clouding of the intellectual powers and by the soporific effect of the alcohol on the nervous tissues. These two actions may be called sedative if the ultimate effect of the alcohol, rather than its mode of action, be taken into account. The stimulant action, on the other hand, of which Dr. Brunton and Dr. Burdon Sanderson spoke, may be looked upon as the primary action of alcohol; that, namely, of filling the capillary vessels by removing or diminishing the power of the sympathetic system of nerves. It is by such an action on the stomach, no doubt, that the feeble digestion to which Dr. Brunton referred can be improved or stimulated; and it is by inducing this action that alcohol sometimes acts as by magic upon the pain of anæmic or spanæmic neuralgia or headache, or that it prevents from stoppage the exhausted heart beating feebly in the termination of typhus fever, before convalescence is fairly established. This being so, it seems to come to this, that the sedative action spoken of by Sir W. Gull is only an increased quantity of what is generally called the stimulant action of alcohol. The latter is obtained by the administration of so much alcohol as will somewhat paralyse the sympathetic nerves and congest the capillaries; the former, or sedative action, is obtained by still more paralysing the sympathetic system, and also to some extent by substituting the consumption of alcohol for that of the patient's own tissues. Inasmuch, however, as both actions are obtained by paralysing the nervous system, it might be well, as Dr. Gull proposes, to consider alcohol as a sedative rather than as a stimulant; and we are inclined to think that the use of this term might be of some advantage to the public by keeping before them the mode of action of alcohol.

While we are upon the so-called stimulant action of alcohol, we wish to draw attention to a very extraordinary statement made by Dr. Burdon Sanderson. He proposes, very

justly, to administer small quantities of alcohol when the temperature (and the pulse, sink below the normal; and he says that the moment the temperature sinks below the normal, danger to life ensues. Again, he says that a temperature of from 96 to 98 deg. would be a really dangerous lowering of the temperature. We cannot help recording our surprise at these statements, especially when they are made by so eminent an authority. Every medical man who has given attention to the matter knows that a fall of temperature to 97 deg., or even to 96 deg., so far from being a dangerous condition and one threatening collapse, is actually the normal condition in convalescence from fevers in general, and probably also from the acute inflammations. In some fevers, such as relapsing fever, it is the rule, one may say, for the temperature to sink to 95 deg. in the course of the disease, while 94 deg. is not at all an uncommon limit of subsidence. There are even exceptional observations taken in relapsing fever, where the thermometer has registered 92 deg. Now, as is well known, relapsing fever is one of the least fatal forms of specific fever, death practically never taking place excepting in the extremely aged and the extremely young. It is evident, therefore, that mere lowering of temperature ought not to have the importance attached to it which is stated in this evidence. Like other symptoms, its gravity must be determined by its concomitants.

A number of other interesting points come before us in the course of this evidence. The use of beer, in contradistinction to that of alcohol, for example, is not so emphatically condemned by the medical witnesses; it being seemingly admitted that beer is much more largely a nutrient than alcohol, though, of course, its abuse is not much less hurtful. Sir W. Gull reminds us of the case of a brewer's drayman, whose body became exceedingly swollen a few hours after death. Wishing to know what this swelling meant, he punctured the skin in many parts, when it was found that the evolution of carburetted hy-

drogen was so considerable as to make it possible to light fifteen or sixteen gas-burners at the man's body at once. Several references were made by the medical witnesses to the practice of the late Dr. Todd; it being unanimously held that that distinguished physician erred in too freely prescribing alcohol, although the adynamic theory of disease on which he founded the practice finds favour with Sir W. Gull.

Into the question of restraint of habitual drunkards, time does not permit us to enter. The subject is a very wide and complicated one, and we observed an unwillingness on the part of some of the witnesses to commit themselves to any but general

opinions. Connected with this is the question of the medical treatment of habitual drunkards; and the witnesses mostly express themselves as favourable to the absolute and immediate stoppage of alcohol in delirium tremens. This question has had no new light thrown on it. Dr. Brunton's suggestion, to treat the drunkard as an epileptic, is ingenious, and may prove useful in some cases. On the whole, we may fairly congratulate the profession on the approach to unanimity which the medical evidence evinced, and we shall await with considerable interest the further evidence which it is proposed to take on the subject.

Notes and Extracts.

THE TREATMENT OF HABITUAL DRUNKARDS.—Dr. Moore, medical officer of the County Antrim Prison, argues that habitual drunkards should be committed like prisoners under remand, the remand to be for a period of not less than three months; and after being discharged they should be liable to be called upon periodically to prove that they are conducting themselves in a quiet and sober manner, the evidence of this state of things to consist of a certificate from a clergyman, a physician, or three householders, the supervision to last for twelve months.—*Lancet*.

TOLERANCE OF CHLORAL IN DELIRIUM TREMENS.—Dr. P. H. Bishop reports in the *Boston Medical Journal* for September 6, a case of delirium tremens, in which a man suffering from the usual symptoms took in delirium a dose of one hundred and sixty-five grains of chloral-hydrate in one draught. He slept thirty-six hours. His pulse during the first hour rose to 132; in the third hour it had gone down to 88, and remained unchanged, full and soft. The temperature never varied from 99 deg. Fahr. Dr. Bishop adds that the amount

taken, a trifle over one hundred and sixty-five grains, is the largest dose which was not fatal that he has ever heard mentioned or read of; and that there should not arise one single alarming symptom, such as diminished temperature, sighing respiration, a slow feeble pulse, or pallor of the features, renders the case remarkable. The patient awoke entirely relieved from his trouble.—*British Medical Journal*.

EFFECTS OF ALCOHOLISM ON MENTAL DISEASES.—M. Magnan, of the St. Anne Asylum, Paris, terminates a paper read at the Geneva Congress with these conclusions:—1. Alcoholism presents different characters, according to the nature of the drinks which have been abused. 2. Alcohol of itself does not give rise to epilepsy; and when this occurs, it depends upon a predisposition in the subject, or upon some other substance than alcohol. The epileptiform attacks in chronic alcoholism do not depend upon the drink taken, but upon the organic lesions which have been already produced in the nervous centres. 3. Special characteristics enable us to distinguish three forms of delirium tre-

mens—the one symptomatic of an injury or of an intercurrent affection; the second, spontaneous, apyretic, and benign; and the third, spontaneous, febrile and grave. 4. Alcoholism may lead directly to general paralysis, certain terminal lesions of chronic alcoholism not differing from the lesions of general paralysis. 5. Alcoholic insanity is distinct from all other forms of insanity; but it may complicate and mask them, hasten their appearance, and accelerate their progress, and may become the point of departure of a partial delirium, with a tendency to systematisation and chronicity.—*Gaz. Méd.*, Oct. 13.

ELIMINATION OF ALCOHOL FROM THE BODY.—A full account of Prof. Binz's researches on this subject is given in the *Archiv. fur exper. Path.*, vi., p. 287. Supposing any considerable portion of the alcohol absorbed into the blood to be eliminated, without previous decomposition [as alcohol], it must escape through the kidneys, or the lungs, or through both of these channels at once. The fallacy inherent in the bichromate test having long since been generally recognised, Binz employed Geissler's vaporimeter for the detection of minute quantities of alcohol in the urine. A number of experiments showed that only a very small proportion of the alcohol taken (six per cent. at most) passes out through the kidneys. The breath is often supposed to smell of alcohol; but the smell noticed after any of the usual intoxicating beverages is really due to essential oils and ethers; it is not observed after a mixture of pure alcohol with distilled water has been taken. Attempts were then made to detect alcohol in the expired air, by passing it for many hours through a series of Wolfe's bottles containing cold distilled water; but in no single case was positive evidence of its presence obtained. Binz concludes, accordingly, that almost all the alcohol absorbed undergoes oxidation in the system.—From "Science Notes: Physiology," in the *Academy*, Nov. 10.

MEDICINAL SUBSTITUTES FOR ALCOHOL.—Dr. E. Symes Thompson, F.R.C.P., communicates to the *Church*

of *England Temperance Chronicle* several remedies which he has found useful in cases where a medicinal substitute seemed to be needed to overcome the craving for alcoholic stimulants. He says "pick-me-up" No. 1 should only be used when the craving is great. Nos. 2 and 3 are suited for persons whose strength has been deteriorated by long habits of excess. No. 4 is specially adapted for those accustomed to a bitter with meals, but need not be taken with meals unless desired.

1. "Pick-me-up." — Sal volatile, spirit of chloroform, compound tincture of cardamoms, of each half-ounce. Dose, a teaspoonful or two in a wine-glassful of water.

2. Solution of the perchloride of iron, spirit of mindererus, spirit of chloroform, of each half-ounce. Water, half-a-pint. Dose, a tablespoonful or two twice a day in a wineglassful of water.

3. Citrate of quinine and iron, a drachm; spirit of cloves, half-ounce: water to half-a-pint. Take two tablespoonfuls twice a-day.

4. Quassia chips, a quarter-of-ounce; cold water, a pint. After standing for half-an-hour, strain; the infusion is then ready for use, and may be taken, a wineglassful at a time, alone or mixed with a teaspoonful or two of "malt extract." N.B.—This infusion of quassia may be used, instead of water, in Form 2 or 3.

A RAILWAY MANAGER ABSTAINING IN SPITE OF THE DOCTOR.—At the forty-first anniversary of the Derby Temperance Society, the chair was taken by Mr. Allport, the manager of the Midland Railway, who said:—"I believe that I have been a temperate man all my life, but I have been induced to refrain from all stimulants during the last two years of my life. I was remonstrated with by my medical man, who told me I was doing wrong, but still I made up my mind to try the experiment. I was told that my mental work—which all must know is very great—necessitated it, and that I could not sustain my work unless I took some kind of stimulant. I dis-

tinctly stated that I would nevertheless try the experiment. If I failed, I thought, I could return to the same temperate habits to which I had been accustomed for so many years gone by; but I was determined, if possible, to leave it off altogether. I must confess that at first there was some little difficulty, but it gradually wore away until, I am happy to say, for the last eighteen months I have not felt the least desire to take anything stronger than water. What is more important, I have been very much better in health—physically, mentally. I have been enabled to go through work with greater ease and comfort to myself. I am thoroughly satisfied, from my own experience (and you must bear in mind that I am now late in life and growing in years), I am thoroughly convinced that it is not necessary for anybody in health to take stimulants, and also that they will be very much better without them."

AN INDIAN MEDICAL DECLARATION.—The following document has received the signatures of forty-three army medical officers in India:—"1. Being fully convinced that nearly all military crime may be traced to the use of intoxicating liquor, and a great deal of sickness caused by its excessive use, there can be no excuse on physical grounds for rejecting the practice of total abstinence. 2. A common idea, that intoxicating stimulants are necessary in India, is a fallacy, which has gradually led many moderate drinkers into baneful excess. The habitual use of rum, brandy, and other spirits is far more injurious than beneficial to the vast majority of those who daily indulge in them. 3. Young soldiers on landing for the first time in India should be warned against the pernicious habit of drinking a dram of rum daily. Many men who never knew its taste before receiving their first dram at the canteen, have acquired a thirst for spirits which has ruined their prospects in the Service, and prevented the recruit from developing, morally and physically, into a well-trained soldier. 4. The men who abstain from intoxicating liquor in the Service, are not more subject to cli-

matic diseases than their drinking companions; on the contrary, the teetotalers are not so frequently under medical observation, or invalided. 5. The object of the Soldiers' Total Abstinence Association commends itself to our sympathy, in its endeavours to suppress drunkenness in the army. The whole question of the use of alcohol as a medicine, is not touched upon by the pledge of the Association, which leaves every member at liberty to use such, under medical direction."

CAPSICUM IN ALCOHOLISM.—In reply to an inquiry in the *Lancet*, Dr. C.A. Owens, of Long Stratton, Norfolk, writes:—"I find capsicum very valuable in the treatment of alcoholism. In delirium tremens it disappointed me, when chloral, and especially bromide of potassium, came to the rescue, and gave relief. In the cases of craving for alcohol referred to by your correspondent, very great benefit is derived from its use. I find a combination of capsicum, nux vomica, and dilute nitro-hydrochloric acid, in an infusion of gentian, most useful in such cases, allaying the feeling of sinking and faintness so urgently complained of; while it affords warmth to the stomach, and enables some food to be taken. I also find this combination a great help in the treatment of drunkards' dyspepsia, the various symptoms yielding readily, not forgetting the early morning sickness, &c. The tincture is a good form in which to give the remedy, the powder being bulky. Capsicum, however, may be given instead. In large doses this drug, doubtless, possesses sedative properties common to the order of plants to which it belongs; but in the text-books which I have consulted I have not seen any notice of such a principle having been discovered." Mr. W. H. Drew, M.R.C.P., of Tufnell Park, London, says:—"I have used the tincture of capsicum largely in that class of cases where there is a craving for alcohol, the patients themselves saying the medicine is a substitute for alcohol, and greatly diminishes the desire to 'drink something.' I generally give it in the following form:—Tincture of capsicum, two drachms;

tincture of digitalis, one drachm; camphor water to six ounces; one tablespoonful for dose, as required. I have also used it in larger doses combined with opium in eight cases of delirium tremens with very good results, but should be sorry to trust to it *without* the opium."

THE IMMEDIATE CURE FOR DRUNKENNESS.—The *St. Louis Clinical Record* (quoted in the *Pacific Medical and Surgical Journal*) states that Dr. McKinley, of Cincinnati, has been engaged for several years in curing the appetite for intoxicating liquors by a mode of treatment peculiar to himself. One case was that of a patient who had considerable abdominal dropsy at the time of treatment. Between the 10th and 13th of December he was compelled to take large and repeated doses of whisky; at the same time he had to take large doses of calomel, followed by two or three large doses of ipecacuanha, washed down each time with whisky. On the 11th he was desperately sick and thought he was dying—more whisky ordered. On the 13th he was again sick and more whisky ordered, but during the night he requested his wife to remove all liquor out of his bedroom, as he had turned against it. He has never tasted any since, his taste for it was entirely gone and has never returned. During the 15th and 16th he took several one-grain doses of ipecacuanha, given every hour. On the 17th the dropsy was all gone, the patient downstairs, appetite good, and tongue normal. The furruginous tonics were ordered, his recovery was complete, and there was no return of this appetite for alcoholic drinks. Dr. McElvoy, who watched this and other cases under Dr. McKinley's care, concludes:—1. That medicine offers the confirmed inebriate relief from the trammels of appetite, with as much certainty as relief from any other pathological condition. 2. That what is done by specialists in the treatment of chronic drunkenness, can and should be done equally well by the profession at large. 3. That reformation by the aid of medicine has solid and real foundation in changes of structure on

which appetite depends, which purely moral reformatations lack, and are, therefore, less permanent.—*Medical Press and Circular*, Dec. 20.

ABUSE OF HOSPITALS.—In deciding whether or not a person is a fit subject for medical relief at a public charity two things at least must be considered: (1) the relation of income to family; (2) the disease from which the patient is suffering. We entirely repudiate the notion that respectable indigence is to have no admission to our public consulting-rooms, and that the struggling clerk, with a decent coat and a large family, is always to give way to the suit of fustian or the rags of the hopelessly improvident. We must never forget, also, that disease is actually the most potent pauperiser we have, and that many a man who would scorn to eat the bread of dependency while in health may be compelled by an attack of consumption to break up his home and seek relief at an hospital. The man who spends his excess of wages in educating himself and his family, and in making his home and his belongings "decent," is surely a more fitting object for encouragement in times of trouble than the man with equal wages who ruins his health by drink and keeps "St. Monday" by coming to the hospital reeking of gin and tremulous from the previous night's debauch. Those who are in the habit of seeing hospital out-patients on a Monday well know that it is the heaviest day of the week, that many of the patients never come again, and that not a few of them come merely to save the penny which they would have to give for an "antibilious pill" at the chemist's hard by, and which long experience tells them it is advisable to take on Monday in order that they may be ready for Tuesday's work. This is the class of patients with whom we have no sympathy; they are mostly artisans who earn or might earn large wages, and who, were their habits more temperate, would not need medical advice of any kind.—*Lancet*.

ALCOHOLISM IN FRANCE.—In a paper on this subject, presented to the Académie de Médecine, by M. Lunier,

he observes: 1. That wine is the true national drink, of which the mean annual quantity consumed during the last ten years has been 50,000,000 hectolitres—about 120 litres per inhabitant per annum. 2. The consumption of cider has diminished during the last twenty years from twenty-four to twenty litres per inhabitant. This is not to be regretted, as the ciders are of bad quality, leading to the taking of much brandy in order to digest them. 3. The consumption of beer has been constantly increasing, so that it has augmented from about 8.25 litres in 1825 to about twenty-two litres at the present time. 4. The consumption of alcohol has progressively increased during forty years; it was two litres per head in 1839, and is now nearly three litres. 5. The departments which consume most alcohol are those which do not consume wine. The contrast in this respect is most striking. Very little wine even is drunk in the departments where brandy is produced from wine. 6. The statistical facts confirm the opinion of M. Bergeron in 1870, that the alcohols of commerce are more mischievous in their action than those from wine. 7. As respects accidental deaths due to excess of drink, they are, for the most part, met with in the departments which consume most alcohol. They rarely occur in those in which most wine is drunk. 8. The results of the application of the law on drunkenness tend to the same conclusion. Prosecutions for drunkenness have been five times more numerous in departments which chiefly consume alcohol than in those which principally consume wine. 9. It is the same with cases of insanity due to alcohol, the proportion of these being almost everywhere in direct relation to the consumption of alcohol, and especially the alcohol of commerce. Almost the only exception is in La Vendée and Charente Inférieure, where white wines are almost exclusively consumed, these being as dangerous in this relation as eau-de-vie. —*Gaz. Hebd.*, October 19.

LEGISLATIVE CONTROL OF HABITUAL DRUNKARDS.—If anything could show the urgent need there is for some

compulsory control over the habitual drunkard, it is a case to which the *Daily Telegraph* has very properly drawn the attention of the public. A poor woman, who was proved to be enfeebled for the want of substantial nourishment, staggers out of a prison in which she had been confined for a month, and, owing to her enfeebled condition gets drunk upon a quantity of spirit that otherwise would not have affected her. She was evidently by no means a hardened criminal, she pleaded strongly for mercy, and she looked forward to another month's imprisonment as an intolerable punishment. Nevertheless, and although she was not an habitual drunkard, she was sentenced to a month's imprisonment with hard labour. On the other hand, a woman who was an inveterate drunkard, and who had been charged more than twenty times for the same offence, was addressed by the merciful judge in the most compassionate manner, fined only 20s., with the alternative of fourteen days' imprisonment, and was told to speak to the chaplain, who would give her good advice. It is not our object to show, with our contemporary, the inequality between these two magisterial decisions; but to draw attention to the fact that did there exist some such legislative control as that which we have frequently advocated in these columns, these cases would probably have never been heard of. It is evident that the first case was not one of habitual drunkenness, and therefore the woman did not deserve the severe sentence passed upon her. The second case was a case of this kind, and almost a hopeless one for the very reason that her drinking propensities had been allowed, through the present absence of any legislative control, to take too strong a hold upon her. Each month's imprisonment, and enforced sobriety, was just sufficient to give her a keen relish for fresh indulgences the moment she got her liberty, without giving her time to break herself of the habit, or for the brain to get in such a healthy tone as would be compatible with a permanent reformation.—*Medical Press and Circular*.

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THE MEDICAL ADMINISTRATION OF ALCOHOL.

AN APPEAL TO THE MEDICAL PROFESSION.

By NORMAN S. KERR, M.D., F.L.S., *London.*

THAT the very general and routine administration of alcoholic liquors in the treatment of a great variety of both acute and chronic diseases is a not unfrequent cause of confirmed intemperance, is well known to many unprejudiced and intelligent observers. And the constant prescription of alcoholic beverages in the great majority of the physical ills which afflict modern life cannot fail to bolster up the belief, pervading all classes in the community, that alcohol is an unfailing source of strength and force, essential in illness, and invaluable in health. Many lamentable cases of drunkenness have come under my own observation, where medical prescription was the first occasion of any kind of intoxicating drink being taken; and I know of most heart-rending consequences resulting from the thoughtless prescription of various kinds of alcoholic drinks as a medicine to reformed drunkards. So patent is the mischief arising in this way that a special Medical Declaration was issued a few years since, signed by most of the leading physicians and surgeons in the kingdom, calling attention to the belief "that the inconsiderate prescription of large quantities of alcoholic liquids by medical men for their patients, has given rise, in many instances, to the formation of intemperate habits," and setting forth that "alcohol, in whatever form, should be prescribed with as much care as any powerful drug, and that the directions for its use should be so framed as not to be interpreted as a sanction for excess, or necessarily for the continuance of its use when the

occasion is past." We all know that the members of our profession are very often blamed unjustly by those who,

"Cheating their better soul with sophisms,
Charge us with habits which themselves have formed
Of their own will and pleasure ;"

but it cannot be denied that there really is lavishness enough in the constantly occurring medical injunction of intoxicating liquors to justify the publication of the Declaration, and to warrant me in asking all conscientious medical practitioners to thoughtfully and thoroughly consider the whole system of alcoholic medication.

Perhaps the ailment for which brandy or some other form of ardent spirit is most generally and generously administered is *post partum* hæmorrhage. Some distressing cases of this nature, which came under my observation in early professional life, and which rapidly went on to a fatal termination, though alcohol was promptly and freely given, first drew my attention seriously to this question; and I have again and again, in later days, witnessed the same sad result in similar cases under the alcoholic régime. But though I have had my own share of this alarming complication of parturition, I have never yet had a case of *post partum* hæmorrhage end badly. In but one case, out of fifty-nine that I have seen either in my own practice or in consultation, has even a minute dose of alcohol been administered. In that case I was not at home when sent for, and, on arriving at the patient's house, found her blanched and pulseless, and life apparently extinct. I immediately seized a brandy bottle, which was standing in the room, and administered one teaspoonful of the contents. Four minutes elapsed before animation faintly appeared, when I at once proceeded to explore the interior of the uterus with one hand, and applied external pressure with the other. The administration of ergot, ammonia, and *extractum carnis*, the external application of hot water bottles to the feet, and other measures were, as soon as possible, resorted to; and, though for three hours the case seemed desperate, the patient finally made an excellent recovery. This is the only similar case in which I have given even so small a quantity as a teaspoonful of brandy, and I would not have done so here had there been ammonia or some other stimulant as ready to hand. It is in such emergencies, when a second's delay may be fatal, and when

"Life for a moment in the balance trembling hangs,"

that I believe the most beneficial effect of alcohol is produced, not because it is better than other remedies, but simply because it is at hand, and *they* are not. In this case, as soon as these could be procured, a teaspoonful of a strong solution of Liebig's extract of meat and half a teaspoonful of liquid extract of ergot

were given alternately every six minutes for an hour and a half, every ten minutes for the hour following, and every fifteen minutes for the succeeding half-hour, when, the patient complaining of the nauseousness caused by so much *extractum carnis*, cold milk was given instead in larger quantities, both the milk and the ergot being then given at gradually increasing intervals. At times, small doses of ammonia were administered, and during the whole illness ice was supplied *ad libitum*. Such, without the teaspoonful of brandy, has, with the occasional exhibition of turpentine, been my invariable treatment in *post partum* hæmorrhage, and I have had great reason to be thankful for the immediate effect, as well as for the comparatively slight reaction which is but too apt to follow even in successful cases.

I have adopted the non-alcoholic treatment in all varieties of hæmorrhage, passive as well as active, and I have never seen any bad result follow in consequence. Whether the loss of blood has arisen from acute or chronic disease, or from the wounding, through accident or otherwise, of even a large blood vessel, I have, in addition to surgical measures when called for, relied mainly on *extractum carnis*, milk, and ice, with, when necessary, astringent medicines, and very rarely, in apparently moribund cases, ammonia. Having seen so many instances of a fatal result following the administration of alcohol in different forms of hæmorrhage, and having experienced in my own practice the most satisfactory results when no alcohol was employed, I feel bound to recommend the non-alcoholic system to my fellow-practitioners for their fair and thorough trial. The ingestion of alcohol dilates the capillaries, and increases greatly the risk of fresh bleeding, and I can come to no other conclusion than that the action of alcoholic liquor in hæmorrhage is ever dangerous and uncertain, never scientific. In acute hæmoptysis (bleeding from the lung) I have found fruit, and especially grapes, at once useful and grateful, in addition to milk, beef tea, and other non-alcoholic articles of diet; and where the fruit could not easily be obtained, I have been in the habit of prescribing, with advantage, Wright's unfermented wine, which, with water, makes a refreshing, palatable, and nutritious beverage.

I have the record of 308 cases of acute Rheumatism (rheumatic fever), treated without a drop of fermented or spirituous liquor, thirty-five of which were in the country, and the bulk of the remainder in London. The patients have been in every rank in life, and of almost every occupation, and there have frequently been cardiac (heart) complications, but only one case terminated fatally. This was the case of an omnibus conductor, who, having been ill with acute rheumatism for six days, was unfortunately attacked with scarlatina, which had been prevalent in the crowded house.

(in the underground floor of which the man lived), and died in sixteen hours thereafter. All but twenty-seven of the whole number were treated with solution of perchloride of iron.

I have treated 172 cases of Delirium Tremens without alcohol, with three deaths, one of these dying within two hours of my first seeing him; and another, owing to the alcoholic somnolence of the nurse, receiving neither food nor physic during one night-period of ten hours. Ipecacuanha was the principal medicinal agent, varied with opium, chloral, bromide of potassium, and, in the third fatal case, digitalis—milk, beef-tea, soups, and diluent drinks being freely given. In the treatment of no disease is absolute abstention from all alcoholic compounds more strongly called for than in *delirium tremens*. Force, not stimulation, is needed, the patient, from intense exhaustion, craving for natural food, and not for artificial poison. I have found Pneumonia (inflammation of the lungs) very manageable without the aid of alcohol. The mortality, even among the badly-housed and badly-fed poor, has not been four per cent., embracing single and double pneumonia, frequently with various complications. The most recent case is the following:—G. M., an undertaker's driver, 36 years of age, a pale delicate man, of lymphatic temperament, was seized with double pneumonia (inflammation of both lungs). The temperature in a few days reached 105° Fah., and the patient was delirious for four days. The man, who was evidently badly nourished, was a pauper, was attended only by his wife, and these two lived with their family of four children in one room, a small apartment in a not very clean or healthy house. He was convalescent in sixteen days. No alcohol was administered, and the diet consisted at first of milk, beef tea, and barley water, with, latterly, eggs and farinaceous food.

Of Bronchitis, especially amongst children and aged persons, I have had considerable experience, and have seen no case where I thought alcohol would be anything but hurtful. The narcotic influence of alcohol sadly interferes with the assimilation and digestion of natural and wholesome food, and without a plentiful supply of bland and concentrated nutriment recovery is often all but hopeless. One of the most recent cases I have had under my care has been a little child only ten months old, who has had three different attacks of acute bronchitis, each of them more severe than the immediately preceding one, in all of which life was despaired of, and who is now quite well and healthy. This is the child of a publican, many of whose friends have had children attacked by the same disease and always treated with brandy and milk. Here I may say, that, in the matter of non-alcoholic treatment, I have much less trouble with publicans and others engaged in the liquor traffic than with any other class in

the community, not excepting teetotalers. There are abstainers *and* abstainers, and weak-kneed members of the cold-water army will sometimes ask me when they may have some port, brandy, or beer, to make them strong ; but publicans and brewers never—they know better. In infantile disease generally I cannot too strongly condemn the constant prescription of brandy-and-milk. Where a stimulant is absolutely required, it will be found that ammonia and milk are quite as effectual, and much less dangerous ; and I have a very strong conviction that the prescription of a narcotic, like alcohol, not only has a tendency to mask the progress of the disease at first, but also, in the convalescent stage, interferes with that digestion of the true food which is so necessary to a perfect recovery.

Erysipelas is another disease of which I have had a large number of cases, and for the successful treatment of which I have seen no advantage in the administration of alcohol. Bland, nourishing articles of diet, in small and frequently-repeated quantities, with appropriate medicines and local measures, afford the best chance of recovery. The same remarks apply to diphtheria, carbuncle, and pyæmia, all of which diseases can be attacked with confidence on the non-alcoholic plan. A few months ago I was called to attend A. N., a young Christian worker, aged 29. He was suffering from a severe attack of diphtheria, and I entertained but faint hopes of his recovery ; but he was convalescent in six days, and was quite restored to wonted health and vigour in thirteen days. Iron, chlorate of potash, bark, and mineral acids were the internal remedies employed, and no alcohol was allowed, though the patient's friends were very clamorous for its administration. Two different medical friends of the sufferer, hearing he was attacked by diphtheria, and believing alcohol to be essential to his safety, sent him each a dozen of champagne, but the patient drank none of it ; and I believe that the proposed alcoholic remedy was ultimately employed in making some healthy people ill.

In Cholera and Diarrhœa the very common employment of brandy is exceedingly dangerous. While immediate relief is sometimes induced, the real state of matters is frequently not altered, only disguised ; and I have seen more than one fatal case in which brandy had been freely resorted to, and, owing to the consequent deadening of the sensations, the patient had felt quite safe, no danger being apprehended even by the medical attendant. When struck down by Asiatic cholera some twelve years ago, in circumstances where medical attendance and nursing were both deficient, though discovered in a state of insensibility, I made a rapid recovery without any troublesome symptoms of reaction, the only available medicine being a small dose of chlo-

rodyne. But there was abundance of cold water, of which I eagerly drank copious draughts; and to this immoderate indulgence in Adam's ale it really appears I was indebted for my life. By retarding tissue changes, alcohol unduly retains waste matter in the body, thus loading the blood with impurities which ought to have been expelled from the system, thereby hastening that very suspension of the pulmonary circulation which, in the stage of choleraic collapse, we find so difficult to overcome.

Alcoholic liquids are as useless in chronic as in acute disease. The requirements in chronic disease, apart from the relief of pain, are, chiefly, sufficient rest and plenty of readily digestible food; in fact, whatever may conduce to conserve the strength, preserve mental quiet, and diminish, as far as possible, the wear and tear of both body and brain. The use of alcohol operates against all these by its disturbing and poisonous effects, particularly on the nervous centres and the heart. In dyspepsia nothing is so common, and yet nothing is more dangerous, than a resort to alcohol, which merely gives temporary comfort by deadening the sensibility of the nerves. I have never seen alcohol do anything else, in such cases, than lessen the discomfort for the moment—a transient relief, to be paid for in future impaired strength and increased nervous irritability; but I have seen many patients entirely cured of this distressing and harassing ailment by giving up alcohol at once and altogether. Of gout and sub-acute or chronic rheumatism it is hardly necessary to speak. Of 1,523 cases of gout that have been under my care only one was in the person of a life-abstainer, and he inherited the disease as a legacy from his alcoholic ancestors. In every case, in all positions of society, where I have succeeded in persuading the sufferer to abandon the internal use of alcohol, there has been a marked diminution in the frequency and severity of the attacks, and in many cases where abstinence has been persisted in has a permanent cure been effected.

A resort to alcohol in affections of the heart is another popular and too-prevalent medical delusion; and I know more than one clergyman perfectly prepared to throw in their lot publicly with the total abstinence movement, prevented from taking that course only by the advice of some medical man who tells them that they have weak hearts, which might stop beating at any moment, and that they are not therefore safe without some spirit-and-water. How an agent which so tremendously increases the labour the heart has to undergo, as shown in the experiments of Professor Parkes and Count Wollowicz, can be desirable in cardiac weakness, is beyond my comprehension; and I find that, in a large number of cases of various chronic forms of failure or disturbance of the heart's action, rest, meat extract, soups, and

other simple restoratives are quite as effectual as ardent spirits, and do not leave the same vital depression behind them. In cardiac debility stimulants of every kind ought to be avoided as much as possible, but when something of this description is absolutely indispensable to arouse the flagging action of the heart—rest and suitable nourishment with external warmth having failed to achieve this—ammonia and camphor, digitalis, or some aromatic mixture, will accomplish all that is required. In shock and collapse from severe injuries, such as extensive burns, there is no need for alcohol. The alcoholic reaction is apt to be very intense, and to add greatly to the risk of a fatal termination; and I have found compound cinnamon powder in hot water an active and most excellent remedy.

As alcohol vitiates blood, dissipates nervous energy, and disturbs the natural functions of all the vital organs, it would seem absurd to expect any benefit from its use in the treatment of Phthisis. And I have found none. I have always a numerous array of consumptive patients under my care, and, in spite of my injunctions to the contrary, many resort to alcohol in the fond hope that they will derive from it health and strength; but I have never seen any permanent arrest of the disease from its employment, only a surer, speedier end. At times there has been an apparent improvement, but this has quickly vanished,

“Swift as a shadow, short as any dream,”

leaving behind it impaired digestion, lessened nutrition, rapidly increasing emaciation, decay, and death. As alcohol is neither a tonic nor a restorative, does not raise but lowers vitality, and keeps the blood overcharged with carbon, it can neither prevent nor cure, though it is continually inducing, tubercular disease.

As to Fever, Professor Gairdner published in 1864 some very remarkable statistics, showing the result of the lessened consumption of alcohol in the treatment of this class of diseases. He states that, in his opinion, it is possible to reduce the mortality of typhoid fever amongst all ages, and especially amongst the young and temperate, without a drop of wine or spirits, except in the rarest emergencies. He is particularly severe on the giving of wine or spirits while withholding milk, which he calls simply destroying the patient, and the practice of which he characterises as a substitution for natural food of a diet, “if diet it can be called, which poisons the blood and checks the secretions, altering for the worse the whole tone of the nervous system and of the digestion and assimilation.” In 1,829 cases where an average of 34 ozs. of wine was administered the rate of mortality was 17.69 per cent., while in 595 cases where the average was 2½ ozs. the mortality was 11.93 per cent. In the same class of

cases in the Glasgow Fever Hospital, where there was a freer though guarded administration of alcohol, the mortality was 20·89 per cent.; and in Dr. Todd's cases in King's College Hospital, where there was a most abundant and profuse supply of alcohol, the mortality was 25 per cent. Dr. T. K. Chambers with alcohol lost 1 in 5, without alcohol 1 in 40. The late Dr. Simon Nicholls informed me that in the Longford Fever Hospital, between 1st January, 1862, and 29th September, 1864, nearly $2\frac{3}{4}$ years, he had a mortality in 115 cases of $4\frac{1}{2}$ per cent.; and in 451 cases during the year ending Michaelmas, 1865, of only $2\frac{1}{2}$ per cent. Dr. Nicolls treated all these cases without a single glass of any kind of intoxicating drink. All the cases of fever of various kinds which have been under my sole care during their entire illness have been treated without alcohol; and after passing through five epidemics of scarlatina, three of enteric (typhoid) fever, two of typhus, two of small-pox, and six of rubeola (measles), I can speak with much satisfaction of the withholding of all alcoholic liquids. The elimination of the poison from the system and the subsequent convalescence are both retarded by the use of any form of intoxicating liquor. Appropriate hygienic measures, a plentiful supply of water and acidulated drinks, unfermented wine, and milk, with (gradually) beef tea, soups, and ordinary strengthening diet, will be found, in the main, and in addition to suitable medicines, the most successful mode of combating this numerous and usually fatal phalanx of diseases.

In surgical injuries, and in the after treatment of operations, my experience has been more limited, but in the cases which have been under my care I have seen no reasonable ground for expecting any benefit from alcohol, and I have administered none. I lately had an opportunity, through the kindness of Dr. Edmunds, of seeing at the Temperance Hospital a very excellent specimen of speedy union by first intention after an amputation of the thigh in the case of a young boy, but I could not appreciate the wonder that seemed to be expressed at so excellent a result without alcohol, inasmuch as I have been acquainted with the practice of several surgeons who, without any regard for total abstinence, but simply from strictly medical and surgical considerations, avoided any alcoholic prescriptions, and who were quite as successful in their practice as any surgeons I have known. In short, my own limited experience and observation have convinced me that, other things being equal, the patient who is given no alcohol to drink will make a better if not a quicker recovery than if he be plied, however cautiously, with either spirituous or fermented liquors.

One form of alcoholic prescription I have no patience with—the prescription of alcohol to nursing mothers. I have again

and again, especially amongst well-to-do people, seen the greatest discomfort to the child under this *régime*, the health of the mother all the while being gradually undermined. One lady, a fairly healthy person, aged 36, I found taking two pints of stout daily in order to keep up the supply of milk. The infant was three months old, always fretful, never seemed free from pain, was puny, and doing badly. The mother was invariably languid and weary. With some difficulty I succeeded in having the child weaned, when he soon became merry, lusty, and lively; and the mother herself, no longer indulging in the depressing and narcotising milk provocatives, speedily recovered her former health and spirits. There is less than a teaspoonful of nourishing material in every ten pints of so-called "nourishing stout," and the ordering of malt or spirituous liquors to nursing women is an inexcusable and indefensible practice, of which all scientific practitioners of medicine ought to be ashamed. If there be no adequate flow of milk on a diet of oatmeal gruel or porridge, soups, milk, farinaceous food, and chops, the imbibition of alcohol will only dilute and adulterate the naturally scanty supply, at once poisoning the child and ruining the constitution of the mother; and most medical men are acquainted with cases where convulsions, diarrhœa, and other dangerous infantile ailments have been directly traceable to the alcoholised, and therefore poisoned maternal milk.

There are members of our profession who hold that medical men, unlike clergymen, have nothing to do with moral considerations in their professional work; but I do not hesitate to declare that I am of an opposite opinion, and in view of the disastrous results that have but too often followed the thoughtless medical prescription of intoxicating drinks, I have felt constrained to bring the whole matter before the profession of which I have the honour to be an unworthy member. Does any one deny that such cases are to be found? Then let me narrate one. I was acquainted with the subject of the narrative, a young lady of great amiability and high intellectual promise, the daughter of pious parents and the pride of the family circle, most of whom were abstainers. She was an abstainer herself till, in her eighteenth year, when suffering from severe pain, she was ordered gin-and-water by the family medical attendant—a not uncommon medical and household remedy in such cases. Finding the pain immediately relieved after each dose, she frequently took the prescribed medicine, though for a long time she remained an abstainer at the social board. Insensibly the habit of drinking crept in, till in less than four years she became an inveterate drunkard. One case more. An Irishman, a working man, met with a serious accident, which necessitated amputation of a leg. After the operation the

officiating surgeon ordered him stout and brandy. The man refused to take either, on the ground that he had taken the pledge years before at the hands of Father Mathew. As the patient persisted in his refusal, the good offices of a priest of his faith were invoked; and finally, on being told by his spiritual guide that, as the doctor said intoxicating liquors were necessary to his safety, he was released from his abstinence pledge, and ought to obey the doctor's orders, he took the prescribed stimulants. The result is that he, who was for sixteen years a model of sobriety, is now an habitual drunkard, breaking out every now and then into paroxysms of alcoholic mania, when he is the terror of all around him. If any doubt whether alcohol is prescribed recklessly in these enlightened days, let me call their attention to the public confession of a highly-esteemed practitioner that in every case of midwifery he had attended he had, immediately after the birth of the child, given the mother a glass of whiskey, except on one occasion, which he has never ceased to regret.

I do not ask you to expunge alcohol from the pharmacopœia, or even to banish it entirely from your practice. Though I have been for seventeen years of the opinion, not long since recorded by Dr. B. W. Richardson, "that every form of disease could be much better treated without alcohol than with it," and though I have the record of more than 30,000 cases of most varieties of disease and injury treated without a drop of alcoholic liquor, I have known cases, such as the one I have already alluded to, where the prompt administration of a dose of alcohol has apparently been the means of saving life; and I do not doubt that emergencies and special symptoms may at times arise where minute doses of alcohol may be highly beneficial. But I demand, as I am entitled to demand, now that the physiological and pathological effects of alcohol are more clearly understood, that your ordinary prescription of alcoholic liquors be based on strictly therapeutic grounds, and on the known effects of the drug on the particular disease to be combated, as evidenced by a minimum rate of mortality in carefully conducted and exhaustive series of cases treated both with and without alcohol. I confidently appeal to you to put an end, at once and for ever, to the common loose practice of ordering alcoholic liquors thoughtlessly, continuously, and as a matter of course: and I plead especially with you never, unless in unavoidable emergencies, to prescribe these liquors to children, young females, and reformed drunkards.

On the whole matter of the medical prescription of alcohol I think I will carry the general assent of the profession to the proposition that we ought to act upon such rules as these:—1st, never to order alcohol in any form unless we are satisfied it is absolutely necessary; 2nd, when we consider alcohol impera-

tively called for, to order it in a mixture, as rectified spirit of wine, if that will answer the purpose; and 3rd, when we believe it is needful to order brandy, gin, beer, or any kind of spirituous or fermented liquor, to order it in precise doses, as “teaspoonsful,” or “drops,” on the distinct understanding that the medicine is not to be continued unless the prescription be renewed. By the observance of some such careful and well-defined rules we would prescribe alcohol as cautiously as any other poisonous drug, we might prevent a medical prescription from initiating a fatal habit, and thus not only protect our patients but preserve the profession whose honour we all have at heart from a partly just and merited reproach.

“Our banner’s flowing folds reveal
The mission which we hold so dear;
To guard is better than to heal,—
The shield is nobler than the spear!”



ALCOHOL AND THE SUPREME FACULTY.

If the moral and physical systems under which human nature is placed are creations of the same Being, as their perfect harmony indicates that they are, it would appear probable that persons who habitually transgress the laws of the one would be most likely to infringe those of the other. And if there is truth in Bishop Butler’s argument, that the power which recognises duty, and which we commonly call conscience, being the highest of all natural human endowments, has the right to dominion over the rest, we might expect that, in every well-conducted human life, this supremacy would make itself seen in all the actions of the individual.

And such indeed is generally the case, for although there are men and women who show an intelligent care in regard to their physical well-being whilst they neglect the duty of obedience to moral law, yet it cannot be denied that, as a rule, those who are influenced by the consideration of right and wrong adopt such modes of living as tend to physical health, and, on the other hand, those who are regardless of moral obligations, in a vast preponderance of cases, pursue a course which tends to physical ruin.

This being the case, the state of the moral faculty, its habitual soundness and energy or its disorder and weakness, becomes an important element in relation to physical conditions, and therefore a matter of no small moment, even from a purely medical point of view. What physician is there who does not continually

see patients whose bodily infirmities and sufferings baffle all his skill though he could easily cure them if he could but restore conscience to its throne?

We may even take a step further. Is not real religious principle—that is, loyalty to the will of God—the surest guarantee that conscience will both be sound in its dictates and maintain its rightful sway? We are quite aware of the view held by certain thinkers, that regard to law is sufficient as a guide to life; but who can dispute that affiance to a personal Being, who is really adored and loved, must necessarily exert a fuller sovereignty over human hearts than even the best informed and most practical belief in the cold abstraction of law?

Admitting the correctness of these views, the medical argument as to the usefulness or injuriousness of alcoholic drinks cannot be complete apart from the question of their influence upon the spiritual nature—call it soul or whatever you may—that is, the faculty or group of faculties which recognize responsibility to moral law and find the highest motive to obedience in allegiance to God.

What, then, is the general result of alcoholic drinking in reference to the culture of this most distinctive department of human nature?

With regard to the consumption of large quantities of intoxicating compounds there can be but one answer. Everyone knows how utterly destructive such a habit is of all moral sense. In fact it would seem as if the highest attribute of man were the first victim of this error, for the records of Courts of Justice, and the desolated homes of tens of thousands of wretched families, give evidence on this question which makes one blush and weep for mankind. Indeed it is this destructive result upon the moral sense that constitutes the greatest difficulty in reclaiming drunkards.

But there is another aspect of the inquiry which ought to come home to those who have no sympathy with what is called excess. Apart from the facts that the small quantity, in thousands upon thousands of cases, prepares the way for the larger, that drunkenness forms one of the direct results of moderate drinking, and that the exact line of demarcation between the two can never be clearly laid down, for it differs in different people,—there is this question for everyone who partakes of the intoxicating agent to answer: Does the stimulus so derived help to foster firm and refined moral and religious feeling, or does it act in an opposite way? Does a draught of beer or a glass of wine help to render the drinker more truthful, more considerate of others, more chaste, more disposed for religious reading and for prayer, or otherwise. In a word, does that which in a vast

number of instances overwhelms man's noblest faculties, ever aid in their preservation, in their culture, or in their exercise; or does not even a very little freedom in its use go directly towards enfeeblement and degeneration?

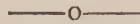
It has been proved that the physical effect of alcohol is to relax that power of control which a certain department of the nervous system is designed to maintain. And there is no lack of evidence to show that its influence on the non-material economy is strictly analogous. It always tends to loosen the reins of self-government, and to unbridle the very passions which ought to be held under the most rigorous regulation.

Many of the readers of the *Medical Temperance Journal* are persons who profess religious faith, and it is to them, especially, that this appeal is addressed. We ask them to consider whether any advantage to spiritual life commensurate with the mischief which all acknowledge to be every moment brought about by alcoholic drinking can be pleaded as a justification for its adoption? The question as to its direct and physical influence has been completely settled by physiological and medical reasoning of the most conclusive kind, so that no one can now fall back upon the supposed "necessity to bodily health;" and therefore we may fairly challenge the religious world to look in the face this matter of the relation of beer and wine and spirit drinking to the health of the soul.

A PHYSICIAN WHO ABSTAINS.



Original Correspondence.



NON-ALCOHOLIC TREATMENT OF TYPHUS FEVER.

(To the Editor of the *Medical Temperance Journal*.)

SIR,—Knowing how much controversy there is now existing amongst the profession whether it is right to administer alcohol in acute diseases or not, I think that medical men, especially abstaining ones, if they meet with a well marked case of severe illness, which has been successfully treated without alcoholic drinks, should take every opportunity of making the same known, not only to the profession,

but if possible to the general public also, that they, too, may learn that diseases which, up to the last few years, have been supposed to require a great deal of wine and brandy to bring them to a happy termination, are now, and can be, recovered from without the administration of alcohol at all in the shape of a beverage. I feel persuaded, Sir, that there are many practitioners, not personal ab-

stainers, who would work without alcohol in the cure of disease if patients and their friends would only allow them to do so. The fact is that the public have so long been taught to regard alcohol as an almost infallible agent in the cure of disease, that any doctor who may dare to suggest the contrary, and persists in it, runs a very great risk of being told to go about his business, and his place is supplied by another, who, in the patient's opinion, is a much better man, for the simple reason that he does not object to the use of wine and brandy in the sick room. We frequently hear medical men blamed on account of the drinking habits of the present generation; in fact they are accused and held responsible for the sad habits of intemperance now rife amongst us, when all the time the public themselves are answerable in the greater degree for these sad delinquencies. Depend upon it, the doctors would back up the Temperance cause if they knew their patients would like it, or, in other words, would submit to the non-alcoholic treatment of disease. From observing the practice at the London Temperance Hospital, I have been much encouraged to persevere without alcohol in the treatment of cases under my own care, and from wrinkles for which I am indebted to Dr. James Edmunds, the senior physician to the above most useful institution, I have at times been able successfully to battle with the prejudices of some of my private patients, and in many cases have succeeded in banishing alcohol from the sick room, to the well-being and well-doing of those sick and afflicted ones under my care.

Last summer I was called to see a

widow, aged forty-five, the mother of two children. I knew her to be a woman of abstemious habits, inasmuch as she rarely took anything but malt liquor, and that only to the extent of a glass of ale with dinner, and another with supper. I mention this fact to show that she was accustomed to a daily stimulus. At the date of this present illness I found she was an out-patient at the Brompton Hospital for Consumption, and she would have sent for me sooner, only she thought that the feelings she complained of to me were but from her old complaint, as she styled it; instead of that I found her suffering from all the symptoms of fever of some sort or other, and it proved to be a case of malignant typhus. I there and then made up my mind, if I possibly could, to treat the case without alcohol, save in medicines. My treatment was simple,—the usual purge, with the saline draughts. The temperature was high throughout the duration of the fever—stood, more or less, at 105° , and, to complicate matters, the patient was seized with pleuro-pneumonia, for which I was old-fashioned enough to apply a large blister, followed by linseed-meal poultices. Brain symptoms supervened, and she became exceedingly delirious and obstreperous too, for a time, though that gave place to low muttering delirium, with unconsciousness. I now added ammonia in excess to the medicine she was taking. I had allowed all along chlorate of potash in water as a fever drink, together with ice to suck, and iced milk, or milk and water; isinglass with milk, and mutton broth, arrowroot, &c. On the twelfth day of the fever my patient was in considerable danger, she began

to refuse medicine and food, and although she had been carefully watched and nursed a bed-sore at the lower portion of the spine made its appearance, due to the extreme loss of vitality. I now began to administer the strongest of beef-tea and calves-foot jelly; thirteenth day, worse state of affairs, exhaustion greater, pulse extremely rapid and feeble, tongue curled up in the mouth as dry as a chip and as black as ink, teeth crusted with sordes; when the patient cried out if anything disturbed her the voice was much fainter, and she had sunk huddled up into the middle of the bed, and altogether she presented the appearance of one to whom the crisis would be fatal. Now came the tug of war, Mr. Editor, for I mentally exclaimed, Shall I give her some brandy? Dare I let her go on apparently fast sinking and not give her stimulants in the shape of wine and brandy? Thank Providence I stuck to my teetotal colours, just then, but I ordered her as a medicine tincture of orange peel with ammonia, to be given alternately with her ordinary mixture containing decoction of bark. Later in the afternoon some friends suggested brandy, and I knew then, if friends came in, I should hardly be able to hold out against them; they clamoured, and still I held out, even at the threat of another doctor being called in if I did not consent to give some brandy. Luckily, just at that time, her mother, the wife of an agricultural labourer in Devonshire, said: "Let doctor alone, wouldn't brandy make the fever worse, don't you see my 'darter's' off her head, what do you want to give her brandy for?" I took the cue; saw a loophole out of my dilemma and split

the difference with the patient's other relatives and friends, met them half-way, in fact, by ordering one part of brandy and two of water, then I said, "Now, grandmother, just you give your poor daughter a teaspoonful of this weak brandy and water as soon as I have gone; but if she raves worse and does not seem to like it don't you let her have any more. I don't want her to have any, but I suppose we must do something of the sort to please the rest of you!" On the morning of the fourteenth day matters were worse and worse. It was with the greatest difficulty milk could be got down, feet cold and pulse scarcely perceptible, and the patient seemed *in extremis*. In the evening I called and found that her mother would not allow anything to be forced down her throat. I took upon myself the office of nurse, and with a teaspoon endeavoured to get some warm milk between the teeth and succeeded, but it only ran out at the angles of the mouth; however I persevered so much that the dear old granny would have snatched the spoon out of my hand had she not have been restrained by other friends; but they could not keep her tongue quiet, and I came in for a fair share of verbal abuse from the old lady for torturing her daughter and not allowing her to die in peace. However, I succeeded in getting the milk down, and left orders for her to be fed continually in the same manner, at the same time wrapping her extremities in hot flannels. On the following morning, the fifteenth day, there was a change for the better, and she made a good recovery; but calling some three weeks afterwards I found her taking kindly to her glass of stout,

"so nourishing," she told me, and, I added, "so nice!" Where the public are at fault is this: they will confound stimulation with nutrition; they cannot distinguish between the article that helps us to use up all the faster any strength we may possess, viz., alcohol, and that article which really furnishes us with strength in the shape of muscle and bone, viz., milk.

The above case, Mr. Editor, was one of true typhus, distinctly marked with the mulberry rash; and I can assure you, Sir, that, save the twenty drops of brandy administered on the thirteenth day, the patient had no stimulating drinks in the shape of wine, spirits, or beer given to her throughout the whole of her illness. My statement is thoroughly accurate in all particulars, but not well written.

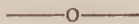
Other writers might have described it in more flowery language, and in a much more readable and perhaps elegant manner, than I have done, but not more truthfully. Typhus is a fever which all medical men agree requires most keeping up with stimulants even from the very commencement, and I hope the result of the above case, treated upon the non-alcoholic plan, may be useful as one of precedence and an encouragement to other physicians and surgeons who may wish to treat fevers without brandy or wine.

I have the honour to be, Sir,
Yours faithfully and obediently,
HENRY W. WILLIAMS, M.D.

168, *Fulham Road, S.W.*
5th March, 1878.



Miscellaneous Communications.



MEDICAL DIFFICULTIES REGARDING TOTAL ABSTINENCE.*

By BENJAMIN WARD RICHARDSON, M.D., F.R.S.

IN respect to the progress of the temperance cause here, as elsewhere, there are certain truths to be remembered which, unless they be remembered, the cause must progress less rapidly than its enthusiastic supporters desire. The truths relate more particularly to the difficulties which lie in the way. The difficulties are of a kind which the practitioner of medicine is most likely to be familiar with, and it is to the consideration of these difficulties and the best way of meeting them that this course of lectures is devoted.

Let me begin with a primary difficulty which we often hear advanced, and which relates to the initiative action of the profession of medicine in favour of total abstinence. It is insisted on that the difficulties in the way of total abstaining are increased by the apathy of those whose lives are given to the cure and prevention of disease. If, it is said, the medical men as a body would support it out and out, the cause would find ready entrance into every house, and would progress with a rapidity which knows no parallel.

It may seem strange to some ears, yet I am bound to express the conviction that such a sudden change of

* From a Lecture delivered at Devonshire House, Bishopsgate, February 5, 1878.

sentiment on the part of a great and noble profession would not be in effect what the earnest and enthusiastic sustainers of abstinence principles expect. Such a change would indicate a fever, not a *bona fide* conversion.

The profession of medicine, it must be remembered, is of all professions the most constantly responsible, and responsible, too, in the dearest interest of humanity. "What will a man not give for his life?" is a proverb that is ever being proclaimed to the man of physic. It is never out of his mind. To him, therefore, the idea of rapid and radical changes affecting possibly the lives of men are changes always disturbed by doubts and anxieties.

The physician must, indeed, be of all men convinced before he commits himself to the practice and inculcation of what is new, and of what in this case is not only new but foreign to the feeling, the taste, and the belief of a large majority of those who surround him.

In plain words, the medical mind, like that of every other professional mind, must be in accord with the mind and current will of the majority of the nation. In this regard, it is in precisely the same position as the mind of the statesman, with the important difference that it is infinitely less powerful and far less independent, having to live by its work and to be a paid as well as a public servant.

The verdict of the majority, of the large majority, would bind, therefore, the profession of medicine, even if the mind of the profession were as universally convinced of the whole truth of abstinence, as the minds of some of its members are, and that at a time when the public feeling is most sensitive on the subject under consideration.

For this is the peculiarity of the world alcoholic, that it fails to believe in itself on this question, while it acts as if it believed. In its soul it knows itself to be wrong in respect to alcohol. This is unavoidable, because Nature never made a single living accountable being to believe solemnly in wrong instead of right. If she had

done so she would have left conscience out in the cold, instead of placing it in the inmost recess and very citadel of the human heart.

As I touch this chord I sound a key-note on the temperance question.

It is one of the grand difficulties of learning to abstain, to learn how to declare the fact of personal abstinence and to let the daily life be its daily record and outward and visible sign.

There are millions upon millions who, directed by conscience alone, are quite aware that they are doing wrong each time they take a cup of alcoholic drink. They would like, indeed, to abstain, but, in plain truth, they dare not. In so far as their own personal lives and healths are concerned they dare, but in so far as their own appearances in the eye of the world are concerned, and the figure they will cut, they dare not. Therefore they go on as the world goes on. They link themselves to the world, and they defend themselves to the world, if not to themselves, by the argument of the majority. Some of them rest on sophistical argument of a keen character for support. "Universal error is practical truth," says one of them. "You are right," says another, and so the universal error is fostered and propagated. Under such a social *régime* it is not to be wondered at that the professors of physic should have more difficulty in becoming the champions of total abstinence than the rest of mankind. The doubting mind that is out of the ranks of medicine, and that feeds its body through some other mode for maintaining the ways and means than the practice of the art of cure, may give way to doubts as to the good of a widespread and long-favoured practice. It need have no fear that the declaration of the doubt will lead to a deficit of the ways and means at the end of the year. The healer is not so circumstanced. His declaration extends from himself to all who come under his professional administration. A hundred doubts are raised by one of his.

You say, you who are free, that thereby he holds also a power of a hundredfold strength. So he does,

perhaps a thousandfold. You say—you who are free—you say, perhaps, Oh, had I only so much power, with what pleasure I would use it.

I am not so sure of that. Some of you would, but not all. The fact of the possession of the power is the reason in most instances for the failure of exercise of it. So much the power, so much the courage that is required to bring it into activity.

And then, again, there stands right across the path the danger of the possible failure of effort. Universal error, even when admitted, is hard to clear away. It is like clearing snow from the top of your house. It is a very comfortless job, and however deftly you may do it, you are pretty sure to let a few shovels-full come down on somebody's head, for which you are held responsible.

So a good many people, with snow on their houses, foreseeing that some day the snow will melt, run all risk from it, and leave it to natural courses to clear away.

Unfortunately, the evils of alcohol do not go away by natural means, but, once fixed, hold firmly, and increase. Some one, therefore, must undertake the task of removing the difficulties, or there is no chance of improvement. It would be well, says the abstainer, if the medical body, which knows most about human life physical good and bad, could, as a body, undertake the duty.

To many minds it appears as if this was the natural duty of the body medical. That is not my view. I think it would be an impossible duty for Medicine to undertake, because she is not the master of, but the administrator to, the requirements of mankind. She cannot even save life beyond the extent to which she is permitted. She must walk gravely by the side of the time. She can afford a few enthusiasts for any good cause, and let them take their chance, but if she were to become enthusiastic generally before they had tried the way she would be liable to discredit, and would not influence so much as she does by the quiet and philosophical course she now pursues.

At the same time the professor of the healing art, who would be inclined to take part in the great cause of the reformation of the world from the hold of strong drink, need not let his guarded neutrality be in opposition to that reformation. Views are changing very fast indeed, and to be in advance five or ten years is not of necessity bad policy. The medical advocate of total abstinence of to-day is not in the position of the advocate of ten years ago. He has now a certain following wherever he may be. The following, day by day, tends to increase, and by-and-by the danger of falling out of public esteem may be not with him who is in advance, but with him who is in the rear of the abstinence movement.

On the whole, the great community of total abstainers may, I think, be well content with the course that matters are taking as between the main body of medicine, and themselves. Every week is bringing some new medical man into the ranks of abstainers, and all are most carefully and conscientiously observing. The members of the profession are ever open to conviction of truth—no body of men so open; without being rash they are bold, and far more of them are quietly teaching the temperance cause, in their own way, than is commonly supposed.

It is not the first time in the history of human progress that the profession of medicine has been in the same position as it now holds in respect to a strange and absurd popular superstition. I can myself just remember what I may call the tail of that singular delusion which for several centuries swept over men, and which is still, in countries less advanced than our own, not quite extinguished. I refer to the practice of abstracting blood from the body; abstracting blood not merely as a mode of curing some kinds of disease, but actually as a means of preserving people in health.

I have seen a day-book and ledger of a country surgeon, which was in its day used to show the annual profits arising from what were entered as the spring and autumn bleedings. The

young of this generation will hardly accredit the fact, yet fact it is, that within a century from this time, nay, I might almost say within the present century, men and women went as regularly every spring and autumn to the doctor to be bled, whether they were well or ill, as they went to their landlords to pay their rent. It was a fixed business for the faculty to bleed twice a year. I heard an old farmer say that he always went to be blooded when his sheep were washed in the spring, and when the statutes were held in October. He believed it was rather later in the year to be blooded than most folks liked, but it suited him to go to the doctor at those times, and he "didn't suppose it mattered much when it was done like, so long as it were done regularly." I, a young Æsculapian, learning to disbelieve in the superstition, just for all the world as I now have learned to disbelieve that *eau de vie* is the water of life, ventured to advise my patient, — who by this time had his shirt sleeve turned up and his own piece of tape out for the fillet,—ventured, I say, to advise my patient that he had better not be bled; that the views of men were changing, and that the process would do him no good whatever. "Save your blood for a rainy day," I said; "some time you may be ill and want it." No licensed victualler could turn on me to-day for doubting *eau de vie* with more utter and contemptible scorn than did that irate farmer who wanted me to have his blood. "What," he said, "not be blooded at fall time? Don't you think I mean to pay you?" Of course I expressed that such a thought was furthest from my mind, and that my objection was offered on principle. My words had no effect. He had been bled spring and fall before I was born, and he would be to the end. He would go to a doctor who had more experience and more common sense. He went, and I have every reason to believe he kept his word until the end of the chapter.

I remember another instance in relation to this blood-letting business, which is instructive in the moral it teaches. I remember the case where

a young surgeon refused to bleed, and where, after the refusal, the patient died. Straightway some of the friends of that patient who had strongly urged bleeding insisted on prosecuting the young surgeon for *mala praxis*. At that time so strongly was the popular voice in favour of blood-letting, that if the trial had proceeded I have no doubt it would have gone against the surgeon, for the medical evidence would have been as six to one in favour of the necessity of the practice of taking blood. By good fortune a much wiser friend interfered, and the proceedings were not taken. In the present day if a surgeon were to take blood in a similar case he would be open to a charge of *mala praxis* for the very act.

In comparison, within the last few years a broken-hearted father consulted me whether he could not prosecute one of the most estimable and able men in medicine because that practitioner, in treating his son, had refused to prescribe wine "until it was too late." Another practitioner had been called in, and had administered a bottle of wine, which failed, "because it was too late for it to do any good." Less conversant at that time than I am now with the action of alcohol in such a case, I strongly and effectively protested against all idea of worrying an excellent and good man, who I knew had done his duty; while in my own mind I reserved the reflection that possibly he was wrong. Now I am as clear as I can be on anything so delicate for decision, that the bottle of wine, if it were not the destroying agent altogether, turned the scale, and transposed a possibly fatal into a necessarily fatal termination.

These evidences are useful as bringing out in strong relief the medical difficulties that relate to all great changes in habits affecting life and health. Taking blood-letting as an example, we have learned that, although the professors of medicine did not, and indeed, could not, give up the wholesale practice at once, they did gradually entice people to do without it, as a regular thing, reserving to themselves the right to use it as a re-

medy, and a very splendid remedy, in certain particular instances with which they, as men of science, are familiar. In my opinion, the same course will be followed, and is being followed, in respect to the use of alcohol. The profession will steadily, and without any compromise, discountenance its use as a regular and a necessary thing for men and women in health, while they will reserve the right to prescribe it in sickness as they would any other medicinal thing, which by science and experience has been proved serviceable in the hands of the physician.

In one particular I think the modern representatives of medicine might take a lesson from their brethren of the olden time. In regard to the practice of blood-letting, the old doctors did certainly set a fine example. They never let anyone practise the spring and fall blood-letting on themselves. They therefore stood forward as good examples of the fact that men could live perfectly well without being subjected to the process in question, and in so far they were shining lights in the highway of a grand reformation.

If every modern doctor would shine forth in a similar way towards another reformation, and would show how splendidly he himself can live and work without alcohol, the way to total abstinence would soon be tremendously brilliant and marvellously attractive.

I might add a great many more details on the topic, but both time and circumstances point out it were better to consider briefly how a few difficulties are to be dealt with practically.

The summary, perhaps, of my advice to temperance reformers on this subject would be to let the medical difficulties, such as they are, adjust and right themselves. They will do so: for if we who believe in total abstinence have the truth on our side, as I am sure we have, we have but to hold it firmly, and the whole world will be sure to come to it. There are, however, a few points of a practical kind which have been forced upon me to read, mark, learn, and digest, and

which it would be wrong to let pass unnoticed.

THE ADMINISTRATION OF ALCOHOL.

In the first place, let me say, as a matter of experience, that to cease to prescribe stimulants is not anything like so difficult a process as it seems to be. It constantly happens in life that we are held back from carrying out some extremely important purpose by some extremely insignificant obstacle. There are times when the smallest dread of remark on the exhibition of any peculiarity is a direct impediment to the realisation of a long-contemplated design. There is a condition of getting into the habit of harbouring these feelings of doubt, which habit confirms the state of doubt and keeps the mode of life and of thought on one plane. It is to be noticed too that the most sensitive natures are the most scrupulous and conscientious. "They fain would climb, but fear lest they should fall." And then, remembering the added royal message, "If thy heart fail thee, do not climb at all," they do not climb. The level ground is clearest, at any rate, and the company there includes the most numerous and most influential. They are in good company at all events, and safe. Why should they make a move which attracts general observation?

When I, on my own part, had learned to abstain from alcohol, I was not without misgivings as to the propriety and correctness of letting my conviction extend beyond my personal self into my professional self. I fancied there would be endless difficulties in carrying on practice under a method that failed to include in its details the use of alcoholic stimulants. I dare say if I had lived in the midst of the time when blood was drawn twice a year, I should have declined to have partaken of the privilege; but I am not at all sure I should have declined to give others the disadvantage of it, when they insisted, and all the world approved.

For this kind of reason I felt a long hesitation as to the course I ought to pursue in respect to the administra-

tion of alcohol. At last I solved the difficulty in a simple and satisfactory manner. Feeling still in doubt whether alcohol, which I knew to be hurtful to men who are in health, both as a beverage and a luxury, might not be some times useful in disease, I determined to separate it altogether from the idea of wines, ales, spirits, and the like, and whenever I did use it medicinally, to prescribe it in its pure form, as alcohol, and thereby as a medicine; just, in fact, as I would prescribe any other medicinal substance. By this method I made what I think to be two useful advances. I distinguished between the improper administration of alcohol as a common drink, and its proper, or possibly proper, application as an occasional medicine. Again, I began by this plan to learn, and in a clear and scientific manner to prove, the real value of alcohol as a remedial agent. Hitherto when I had ordered alcohol in the way of wine or other strong drink, I had no correct knowledge of the amount of it contained in the quantity ordered, nor of the true amount taken by the patient, whose glasses and other measures differed materially, nor of the nature of the other chemical substances which are mixed with the alcohol in the common spirituous drinks, ethers in wines, ænanthic ethers in brandies, fusel oil in whiskies, and so on. But now I had before me the action of the real Simon Pure, about which there could be no mistake in dose, in quality, and in purity.

Under this plan all difficulties have passed. I still prescribe alcohol when I see the necessity for its medicinal service, and I am quite sure I prescribe it with a precision with which I never prescribed it before in my life. It is just also to say, and most encouraging to say, that I have rarely found the slightest obstacle put in the way of this practice by any one. Once or twice I have been told by those who loved wine so dearly they did not like to separate from it, that they could not see the distinction between prescribing alcohol and ordinary wine, but these obscure reasonings have been limited, and I am certain that if every

physician, whether he be an abstainer from it or not, would begin to prescribe alcohol on that plan, he would never depart from the practice, because it is so common-sense and so accurate. It is using a remedy, as Sir Thomas Watson aptly says all remedies should be used, as "a weapon of precision."

This is not the place for me to speak of the action of alcohol as used in this manner in the treatment of disease. I may nevertheless state one or two general facts. In the first place I may state that under this guarded mode of using alcohol and observing what it really does as a remedy, my dependence upon it has very greatly diminished. In proportion as that dependence has been given up, my wonder has increased at the good that has often followed from doing without it. Speaking for myself alone, and specially guarding what I say by making the opinion purely individual, I conscientiously declare that although I might in rare instances be obliged to substitute some other chemical agent for alcohol if it did not exist at all, there is scarcely any drug I could more easily spare. If it had never been discovered I do not believe that medical science would ever have suffered one iota from the absence of its direct use; and if it were never directly prescribed again I doubt whether any loss to the sick would be sustained. At the same time, on the principle of giving the "devil his due" even in solution, alcohol must not be deposed from its right place. It is an admirable solvent of many medicinal agents: and as the starting-point for the manufacture of chloroform, ether, and other chemical medical substances, it is of the utmost value. But these are its legitimate as distinguished from its injurious applications.

The point I have endeavoured to make in these last remarks is that the difficulty which at present exists between the daily-increasing abstaining community and the profession of medicine is easily solved in respect to the use of alcohol. It is solved simply by the physician making, and the abstaining public accepting, alcohol as a medicine, in the same way as chloro-

form or any other derivative of alcohol or any other medicinal agent, is accepted.

We see frequently in the public papers notices of altercations that are going on, in our great charitable and other public institutions, between the managers and the members of the medical staff as to the use of alcoholic drinks. It sometimes happens that the managers, one or more of them, complain of the medical officers for ordering these drinks. Then arises a medical argument in favour of the drinks, and a lay argument in denunciation of them. In other instances the position is reversed. The medical officer is a total abstainer, and some poor soul who wants to be saved by *eau de vie* or wine appeals to the sensitive heart of a well-disposed manager, who straightway accuses the medical officer of riding hobbies to death, of carrying his particular views to oppression, and of being a man unfit to hold his position as a public servant. Then occurs a medical argument against the use of alcoholic drinks, and a lay argument in favour of them, followed up frequently, as a rider, by a burning theological argument;—the whole a bitter controversy. I am speaking within bounds when I say that scarcely a month passes which does not bring me a letter asking for opinion or advice on some local dispute that has originated in this fashion.

Such a controversy, I repeat, is bitter, and, I will add, unnecessary. It might be settled at once in every case by simply letting the medical officer of each public institution use alcohol—not wine, or brandy, or rum, or whisky, or gin, or hollands, or ale—but alcohol absolutely as a medicine: a medicine furnished not to the cellar, but to the dispensary—dispensed not by the housekeeper, or the storekeeper, or the steward, or the matron, or the nurse, but by the apothecary; and meted out not by the free-and-easy filling up of the gill, the quartern, the wine-glass, or the tumbler, but by the fluid drachm or the fluid ounce, accurately measured, and precisely admixed with the water that is required to dilute it.

By this simple system there would be saving of expense, precision of application of the article expended, precision of observation on the efficacy of the article expended, and avoidance of those recriminations which are so hurtful to all institutions founded for the relief of the weak and the suffering.

As an illustration of the difficulties which lie in the way of medical men in practice, and as an illustration of the point now under consideration, I may refer to a note I have received while this lecture was being prepared. It is from one of the most earnest total abstainers in Ireland, and it encloses a note from his son, who is a surgeon in the Royal Navy, and also an abstainer. The surgeon says that in the West Indies the stokers on board ship, who have to work often at a temperature of 140° Fah., come up "quite collapsed, and throw themselves on the deck half dead." The engineer will give them a glass of grog from his own glass, which will revive them at once, and enable them to finish their watch below. His (the surgeon's) predecessor did not order a double allowance of grog under these circumstances, and it is believed that, therefore, many stokers went on the sick list. The fleet surgeon, a very temperate man, and of large experience, says that he always found the total abstainers stood the heat much worse than the men that took their grog, and that the only stokers who went on the sick list were the abstainers. This, adds the writer of the letter, is important evidence; and then he puts the difficulty: What shall he do conscientiously in such a case of difficulty?

To that my answer would be simple enough. I admit that on one side the evidence seems striking. But there is another side. Here, in respect to men working at furnaces in gas works, in foundries, in glass works, in our steamers, the evidence is that work is better done without spirit, and that the drinkers of spirits are those who fail and sicken first. The evidence, therefore, at best, is conflicting. Let it pass as in that position, and let it be tested further, but not by grog,* which

appeals to the appetites of the workers, without any necessary reference to their urgent physical necessities until the necessity is proved. To the officer I have referred to, and whose candour we must all admire, I should respectfully say, Prescribe the stimulant until you satisfy yourself by a number of observations whether it is or is not useful. But prescribe it as a medicine, do not give it as a beverage. Prescribe it as *alcohol* from the dispensary. Learn the exact quantity that is required to produce the desired effect, and then you will discover, and in no other way, whether the good attributed to grog is due to the alcohol it contains, or to any other agency.

This is the scientific and, as I think, the common-sense mode of procedure.

MEDICAL CONFERENCES ON ALCOHOL.

There is one other topic on the relation of total abstinence to medical science, to which I would refer before I close on this head. It relates to what are called medical conferences on the question of abstinence. I am every week or so being invited to take a part in a public medical conference, to speak on the side of total abstinence. My time is too much occupied to be able to attend these meetings; but if it were ever so free, I candidly admit I should feel great hesitation in giving attendance. This may seem at first an error of judgment, but experience day by day shows me it is the only correct course to pursue. I am obliged to state my earnest conviction,—I should be a false friend to the cause we all have so much at heart if I did not state it,—that public medical conferences on the alcohol question are at all times a mistake.

It looks at first sight the most natural thing in the world and the most useful thing for the public to call a number of medical men together, set them on discussing together the *pros* and *cons* of the alcohol controversy in its bearings on health, on disease, on life, and to listen to the argument as a jury might

listen to the pleadings of counsel in a court of justice. The appearance of such a proceeding looks well in theory. In practice it is bad in looks, and worse than useless. It cannot be otherwise. So soon as the medical men begin to discuss this question on adverse sides they begin, of necessity, to discuss the matter in their own learned way, which way the public do not understand. The opponents pit experience against experience; the *post hoc et propter hoc* mode of declaration gains full ascendancy; while the arguments either way supplied from exact experimental science are, owing to the limitation of time given to each speaker, imperfectly laid out. The result altogether is as unsatisfactory as if a sixpence had been tossed and the turning up of heads or tails had settled the dispute. The man who can speak best on either side, whether his reasoning be best or not, always exerts an undue advantage by his mere gift of speech. The man who can reason most ingeniously, whether his reasoning be sound or not, always exercises an undue advantage. The man who is best known locally, and in whom the public has what is called the greatest confidence in medical matters, always exerts, whichever side he takes, an undue influence. All through the public that is listening is not in the arcanum. It commonly loses all interest in the course of the debate, and it rises asking once more and once more the old question, "When doctors differ who shall decide?"

In making these observations I am not speaking with a view to discountenance sound and reasonable discussions on the question of total abstinence amongst medical men themselves when they meet for mutual improvement on important public occasions. I am sure that the honoured President of the National Temperance League, Mr. Samuel Bowly, has exercised the wisest discretion, and has effected the greatest good, by his courageous and straightforward action of inviting large numbers of the medical fraternity to meet him and the Council of the League each year to breakfast,

and to solemn consideration of the great question which he leads with so much earnestness, honesty, and judgment. Such gatherings of disputants are fair fields for discussion, and the good that comes from the effort is each year more distinctly marked.

My argument is solely against the mixed medical and public mode of discussion, as a mode impossible of good and productive often of injury to the cause of abstinence.

The truest and best application of medical learning and ability to the cause of Temperance lies in teaching the truth, not in arguing upon it, or trying by forensic, rather than educational, skill, to confound the subtle opponent, and astonish the unsophisticated and admiring auditor.

Every medical man who joins the cause of abstinence, who makes his life an example of its goodness; who devotes his intellectual powers to the investigation of its truth; who devotes his best energies to the study of expression in language, spoken or written, of the results of his inquiries; and who, by these simple but incisive methods, becomes an advocate of our cause, is worth many ordinary advocates, however accomplished and good

they may be. He learns in a school that is closed to other men. He teaches in places that are sealed to other men. He can say at the precise moment to the individual what no one else may know that it requires to be said; and when he appears in public he can speak to the public on the physical side of the question, with an authority which no one else less learned can venture to assume, none less educated can successfully dispute.

In conclusion, the difficulties that lie connected with total abstinence and the medical profession must be allowed to pass away under the direction of the profession itself. They will pass away by this means. One day it will be gladly accepted and proudly declared by the medical body everywhere, that in the great war against intemperance, in the great revolution that enthroned total abstinence, her sons were in the van of the fighting men. If, then, recognition and grateful remembrance in his silent future be an object of hope to any representative of the healing art, let him forthwith put his hand to the plough, and, looking not back, see straight before him his certain and noble place in that magnificent silence.



THE USE OF ALCOHOL IN THE TREATMENT OF DISEASE.*

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(*Read before the Clinical and Pathological Section of the local Branch.*)

MR. PRESIDENT,—Even with the limited time at my disposal I must regard my subject from four points of view.

* Note.—The object for which the following paper was written determined its character and limited its scope. The paper was not intended to develop the subject of which it treats, but simply to open a discussion. No attempt has been made to supply the omissions which the conditions imposed rendered necessary.—J. R.

1. *The Historical.*—From this aspect of the question we have to learn caution in forming our opinion and forbearance in discussing it. When in the course of a single lifetime, and that not yet a long one, such changes of opinion have taken place as those which this generation has witnessed, as to the value of stimulants and bleeding, the conclusion is forced upon us, that either the data have not been clearly made out, or else that other considerations have been introduced which have exerted an influ-

ence, legitimate or otherwise, upon the decision.

I can distinctly remember, as a student, the heavy sense of responsibility laid upon me by my teachers in determining whether to give a stimulant in fever, and the awe with which I looked forward to having to decide this question for myself. About this time, as we learn from his own valuable "*Clinique Médicale*," M. Andral was bleeding indiscriminately every case of pneumonia alike. Then followed the administration of brandy with a free hand, the alcohol being regarded as generally curative, as depletion was believed to be not many years before. Now the pendulum is swinging towards another and a different point in the arc of opinion, as regards both stimulants and bleeding.

To the men of Andral's generation inflammation was too much a name; and it was the great merit of my old teacher, Dr. Todd, that in introducing the use of brandy he broke through the influence of a word, treating the organic processes of which inflammation forms a part, rather than some fancied condition super-imposed upon them. Accepting this view of disease, it is for us to avoid extremes in treatment, founded upon partial opinions as to this constitutional state, so as rightly to gauge its power of endurance and to interpret with coolness the signs of failure which it may hold out.

2. *The Moral View.*—It is beyond doubt that the moral questions which have arisen in connection with the employment of alcohol, viewed in its social relations, have largely contributed to complicate the subject of its use in therapeutics. I must add that I welcome the tendency, which I think especially characterises this age and country, to bring into prominence the moral aspect of subjects—social, political, or scientific—which are presented to the attention of the public; but, of course, the corollary should follow, that as the discussion is thereby removed from the area of the passionless intellect, corresponding care must be taken to preserve due relation between the intellectual con-

clusion and the moral judgment. On this part of my subject very much must be left to each one's sense of right—and he will probably justify his conduct by two pleas, involving his decision—(1) as to the extent to which alcohol is actually beneficial; and (2) as to the danger of inducing intemperate habits in his patients, and of appearing to countenance the use of an agent capable of producing such widespread evil.

For myself I may at once take up the position I am prepared to defend, in the words of Professor Binz:—"The physician may recommend total abstinence to healthy persons in every instance, but he throws away one of the most valuable of medicines if he carries the principles of teetotalism into the sick room." But I must add, that recognising, as we must, an increasing tendency to licentious indulgence in stimulants among all classes of our population, and in both sexes, we employ alcohol under a weight of responsibility the conviction of which ought never to leave our minds.

I believe that the share which is attributable to our profession in inducing intemperance among our patients has been much exaggerated, sometimes for rhetorical purposes; but I am equally sure that want of discretion in this matter is quite capable of producing the result with which we have been charged; and, on the other hand, that we have it in our power by the exercise of firmness, tempered by kindness and guided by common sense, to discourage the formation of drinking habits, and to correct certain mistaken notions on the part of the public as to the necessity for taking stimulants.

Thus I do not fear any moral evil from giving brandy in fevers and acute inflammations; but, on the other hand, I believe that in chronic maladies alcohol should always be prescribed with an eye to possible evil; and further, that there are diseases in which the doctor is highly culpable if he sanction the use of alcohol *at all*, excepting for special and well considered reasons. I would particularise

the entire class of *nervous diseases*; it is characteristic of many members of this group that the relief afforded by alcohol is peculiarly rapid, and therefore very seductive; moreover, its renovating power is most rapidly felt by the nervous tissue, because nutritive changes go on with remarkable rapidity in that tissue.

So, again, we ought to warn the man, and especially the young man of weakly habit, whose digestive function is low through want of power; and the man immersed in scientific pursuits, in business anxieties, or in political schemes, whose appetite flags through diverted nerve power—that the small dose of brandy which brings up the stomach to the required pitch of energy is fraught with danger in the future. Even more decided is the demand for the performance of this duty in the case of the votaries of pleasure; in the young and thoughtless of both sexes, but especially of the female sex.

We ought, too, in determining our conduct in this respect, to regard our patient's character, his power of self-control, his surroundings, his social habits, and even his family proclivities; for all these conditions have an important share in determining the power which temptation will exert. And among the *false notions* to be corrected, is that which honestly interprets every feeling of nervous or mental depression as a sign of physical weakness, requiring the support of wine or brandy.

Finally, our sense of responsibility should be quickened by remembering that, of all stimulants, the alcoholic group is that which is most acceptable to the palate, and therefore is the one most likely to tempt the patient to transgress the limits of necessity in using it.

3. *The Scientific Aspect.*—The opinion held until the last few years, that alcohol passed through the system without undergoing any change, long afforded a powerful argument against its being supposed to have any power as a medicine. This opinion, based upon the experiments of Lallemand, Duroy, and Perrin abroad, and of Dr.

Edward Smith at home, has been completely upset by the researches of Baudot, Anstie, Dupré, and finally of Binz, so that it may now be accepted as a fact that when taken in *non-intoxicating* doses, alcohol is entirely consumed within the body; only a fraction of a grain being eliminated by the kidneys, and even a smaller quantity by the lungs and skin, according to Anstie and Dupré; three per cent., according to Binz, and that only under very favourable circumstances. Mr. Wanklyn is stated to have lately concluded that alcohol, in passing through the body, is converted into *glycol*, a substance possessing a direct nutritive value.

Now when we find that Dr. Frankland estimates the power of alcohol to produce force by the figure 7—whilst coal is denoted by 8, and cod-liver oil by 9—we may appreciate the capacity of alcohol, when decomposed, to develop within the body force of some sort, and must admit at once its claim, from the scientific point of view, to be rated among therapeutic agents. It further seems to be probable that this capability of developing energy confers on alcohol a superiority over other stimulants, inasmuch as it is likely that by evolving power whilst stimulating to increased action, it is so much the less in danger of drawing upon the reserve force of the system.

It is this function of developing energy by its decomposition that led Anstie to rank alcohol among foods; and a most important idea is contained in this classification, an idea expressed by his placing food at the very head of his stimulant group; thereby applying to stimulants his test of the alimentary character of any substance, viz., its power to support life for a longer period than it could subsist if deprived of all external help. In accordance with this classification is the reputed fact that individuals have maintained existence for a lengthened period on alcohol and water alone, and the collateral statement that patients who have taken alcohol in fevers undergo less emaciation, and have a more rapid convalescence.

Now two practical conclusions follow—(1) *That careful administration of food will lessen the demand for alcohol*; (2) *that alcohol is most necessary when food cannot be taken in sufficient quantity*. I make the limitation emphatically, both with a moral reference and also because, physiologically, alcohol can only be useful as a substitute for food under exceptional conditions.

Beyond its power of developing energy, alcohol acts directly as a *stimulant*—(1) by its direct action on the heart; (2) by its dilating the minute vessels, and so promoting a further supply of the vitalising fluid to the different organs.

I must also state that alcohol is gifted with an antipyretic function, lowering temperature by increasing the activity of the cutaneous circulation, diminishing oxidation, and lessening the energy of cell formation.

4. In looking at the subject from the *practical* point of view, it is, first of all, necessary for us to free ourselves from the influence of a too exclusive study of the action of alcohol in its purely scientific relation. We must remember that in medicine it is to act on a machine the operations of which we at present only imperfectly comprehend.

For example, in Dr. Parkes's highly interesting pamphlet on "The issue of a Spirit Ration during the Ashantee Campaign," we learn that a stimulant dose of rum administered during the day's march actually retarded the men, in consequence of the depression which inevitably took place in an hour's time, when the immediate effect of the rum had subsided; consequently the rum was permitted in the evening only, when the day's labour was ended. And in the experiments tried by Dr. Parkes on three young and healthy soldiers, the men agreed in asserting that they performed a heavy day's march more satisfactorily on beef tea than on a moderate dose of rum, all uniting in stating that the sense of fatigue returned with added intensity when the immediate action of the rum had passed away. Similar was the experience of a gang

of navvies, who best sustained a demand for severe and protracted effort on the Great Western Railway, on a beverage of gruel and sugar; all alike demonstrating that we must place practical experience by the side of scientific conclusions, until all the physiological data are clearly made out. It would appear that there is danger, under certain circumstances, either of alcohol unduly draining the reserve force of the body, or else, as is more likely, of its developing its narcotic operation in an unexpected manner.

As an article of daily diet I must leave each healthy man to decide for himself. But there can be no doubt that in the case of persons in weak health, after acute disease or in consequence of constitutional delicacy, alcohol, in some shape or other, constitutes a valuable element in each day's dietary, acting as a stimulant at once to appetite and digestion; and this remark has special application to weakly children, the alcohol being given not so well in the form of a wine as in the shape of brandy with milk. I have often believed, too, that it sometimes refreshes, in times of excessive strain upon the mental energies, by exerting its narcotic influence, even in very moderate doses, giving thereby temporary repose to the more active intellectual operations, and leaving the mind to carry on its work for a time by mere automatic impulse.

As regards the employment of alcohol in disease, I may at once pass over its action as a *cardiac stimulant* in various emergencies. In *acute disease* it is probably rarely called for in the early stage, and care in feeding the patient will defer the demand for it, or put it aside altogether. May I say that I believe alcohol is still used too indiscriminately and needlessly, especially in the beginning of an acute attack; and that I think I have often seen young men in particular unduly alarmed by the depression caused by the immediate irruption of disease, having recourse to brandy, when by waiting they would find the cause for uneasiness on their patients' account to disappear?

The discussion as to the adminis-

tration of brandy in acute disease has usually gathered around the use of the remedy in pneumonia and in severe fevers. Some fifteen years ago I read a paper, on the Stimulant Treatment of Pneumonia, to one of our societies. In several of my cases brandy had been given very freely, more freely than I should give it now; and I then noted, as being specially worthy of remark, that even a delicate woman took half an ounce of brandy every hour for more than forty-eight hours, and yet showed no signs of the narcotic action of alcohol. Doubtless the excess of brandy ran off by the secreting organs, as was found to be the case by Dr. E. Smith, when excessive quantities were swallowed; a fact which explains the discrepancy between his conclusions and those later ones to which I have adverted. Still, the absence of all narcotic influence is a striking circumstance in these and many like cases; a circumstance, however, paralleled by opium under similar conditions.

But it must be observed that a fairly active state of the excreting organs is an important element in contributing to the salutary operation of alcohol in large doses, since it is, of course, essential for the remedy to stop short of its narcotic, that is of its poisonous, action.

Whilst fully according to alcohol a high position among the means in our possession for carrying our patient through an acute disease, I must qualify my statement by two remarks, which place the subject, according to my view of it, in a different position from that which it occupied when first the free administration of brandy was recommended—(1) that it is in *exceptional* cases only of acute disease that it will be needed, at least urgently. How numerous are these exceptional cases I know not; I only wish to emphasise

the statement that I recognise no such expression as “the stimulant treatment of such and such a disease,” meaning thereby a routine method; and (2) that the large quantities of brandy we formerly gave are advantageously replaced by a more moderate allowance. That both these premisses are pretty generally admitted, at least in this town, is, I think, indicated by the much diminished consumption of alcoholic stimulants in the hospitals, and, I believe, in private practice also.

I say nothing of the power of alcohol to reduce temperature, since for this purpose quinine, and especially salicylic acid, are very superior agents; for alcohol must be given in very large and frequently repeated doses to act as a febrifuge.

Indeed, it is probably in the complexity of its operation, in its exerting a very composite influence, that the superiority of alcohol, viewed therapeutically, consists. Regarded in connection with any one of its varied effects, it is likely that it may be matched by some other remedy; but I believe we must admit that in its operation as a whole we have no agent that can take its place under due restriction. True it is that science tells us it sets free a large amount of energy, without revealing to us any method for directing the course which the developed power shall take, nor the purposes to which it shall be applied; but we must remember, whilst recognising, with the deepest regret for our damaged social interests, the evil with which it is allied, that the alliance with evil is by no means inseparable, and that what we have to do is to sever this unrighteous connection; for I do not believe we shall ever succeed in banishing alcohol altogether either from our tables or from our pharmacopœia. — *Birmingham Medical Review*, January, 1878.

[Although it is an important function of our Journal to record the progress of medical opinion regarding alcohol, it should be understood that we are not necessarily committed to any approval of the views advanced by the writers whose papers are reproduced in our pages, even when we refrain, as in this case, from questioning their conclusions.]

ON THE DIAGNOSIS AND TREATMENT OF ACUTE DISEASES INDUCED BY ALCOHOL.

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THE acute forms of alcoholism of which I purpose speaking are :—(1) acute catarrh of the alimentary mucous membrane ; (2) rapid coma from alcoholic poisoning ; (3) some varieties of delirium tremens ; and (4) a special type of insanity termed oinomania.

The symptoms of acute intoxication and of the gastric catarrh which follows this condition are well known ; and the fact that the latter cannot be diagnosed from any other form of gastric catarrh, except the patient is willing to take us into his confidence, or we guess thereat from a knowledge of his habits and from the suddenness and severity of the attack, renders it quite unnecessary for me to dwell any longer thereon, and I pass on to the phenomena of acute alcoholic coma.

In slight cases of alcoholic coma, prolonged drowsiness is the chief symptom ; but in the severer forms the patient is quite insensible, the power of motion is in complete abeyance ; the breathing is stertorous ; the face usually pale, the features remaining symmetrical ; the pupils dilated, though they may be contracted or even unequal ; the pulse slow, full, and laboured ; the skin cold and clammy ; and the temperature low—in one case it fell to 92° Fahr. There may be albuminuria, and occasionally the urine and fæces are passed involuntarily. From this brief account it will be seen that the general features of the coma present nothing distinctive, and for our diagnosis to be certain, we must be able to exclude the other causes of deep coma. Blows on the head should be carefully looked for, as in many cases the symptoms of concussion of the brain are very like those of that stage of drunkenness which is just short of complete coma, and from severe blows absolute coma may result. The smell of the breath is quite unimportant, and often misleading, for a man who has been

drinking may fall and injure his skull, and if the breath be alone considered, we may dismiss a serious case of concussion of the brain. There is no absolute diagnostic criterion in such doubtful cases, and we are therefore bound to keep the patient under observation until the diagnosis becomes positive and certain.

Cases of cerebral apoplexy are continually being mistaken for alcoholic coma, and *vice versa*. Those due to embolism are so sudden, the coma, if there be any, passes off so soon, and the hemiplegia is so complete, that an error can scarcely be committed. Those due to thrombosis also present so marked paralytic symptoms, and so little and so transient a coma, that they may also be dismissed from our consideration. The difficulty arises in cases of hæmorrhage into the brain. The diagnosis is uncertain in the two degrees of drunkenness—viz., in the stage of complete coma and in the noisy and uproarious stage. It is extremely difficult to diagnose complete alcoholic coma from that due to cerebral hæmorrhage, especially if the latter be into the pons or into the lateral ventricles. In ordinary cases of apoplexy there is some evidence of one-sided paralysis of the limbs or face, convulsions are of greater severity on one side of the body, and there is rigidity or spasm of one limb, or squinting. The pupils are frequently unequal, but I have seen this also in alcoholic coma. Unless we have some such distinctive features of an unilateral lesion in the brain presenting some well-marked unilateral symptom, we cannot come to a positive diagnosis. Two more points are left for observation. The patient's urine may give the alcoholic reaction. A chromic-acid solution (made by dissolving one part of bi-chromate of potash in 300 parts by weight of strong H_2SO_4) is immediately turned

to a bright emerald green by the addition of alcohol either pure or contained in urine. This reaction is sudden and immediate, and, although other substances oxidise this solution and produce a similar colour, it is scarcely liable to any practical fallacy. Again, the patient may vomit, and the vomited matters may contain a large quantity of alcohol, or none at all, and so explain the nature of the case. The second condition—that of noise and excitement—is the one in which most mistakes are made, for the patient may have a serious and fatal lesion in his brain, and yet be able to struggle, swear, answer questions more or less rationally, put his tongue out, &c., and hence even the most cautious and experienced practitioner may come to the conclusion that he is only drunk. Such an opinion is the more readily formed if the patient's breath smell of alcohol. We must remember that a man with a threatened attack of apoplexy feeling ill (for such cases are rarely absolutely sudden), may go into a public-house, drink some spirit, fall down in a fit, be picked up by a policeman, and taken to a hospital or police-station. In this case the breath would give an alcoholic odour, and the circumstantial evidence point to drunkenness, and yet the case be one of severe cerebral hæmorrhage. These cases of so-called "ingravescent" or "increasing" apoplexy begin with delirium or a convulsion, then there is partial recovery with confusion and headache, and after some time (from one or two even up to forty-eight hours) deep and prolonged coma sets in. Extensive hæmorrhage is always found, usually bursting through one corpus striatum into the lateral ventricle. Copious meningeal hæmorrhage is sometimes attended with a similar succession of symptoms. Again I must repeat that the general features of the case are not to be relied on for a diagnosis, and such individuals must be carefully watched, otherwise we may find that the patient is "not drunk, but dying," and so get much discredit.

Coma from opium-poisoning cannot be readily diagnosed except by the

history. The minute contraction of the pupils is a valuable sign, but I have seen this as marked in alcoholic coma as in opium-poisoning, and in cases of hæmorrhage into the centre or into both sides of the pons it is a constant symptom. The stomach-pump must be used; for if this be carefully done, no harm results to an apoplectic, and it is far better that it should be resorted to, even in a case of cerebral hæmorrhage, than that a patient should die of opium-poisoning without proper treatment, owing to a mistake in diagnosis. The smell of opium may guide us to a correct opinion, and in prussic acid poisoning the odour of the drug is so very characteristic and the collapse so marked that no error is likely to be made. In cases of poisoning by other narcotics, the odour of the drug and the history can alone guide us; but in all doubtful cases we must again appeal to the stomach-pump. In cases of uræmia we are also likely to be deceived if we trust to the general appearances of the patient, but an examination of the urine for albumen and renal casts, and of the patient for signs of dropsy or of hypertrophied heart as a consequence of chronic Bright's disease, will put us right. The fallacies here are, that a patient with chronic Bright's disease may also be suffering from alcoholic coma, as happened in a case under my observation; that one or more convulsions may be due to uræmia, or may usher in an attack of alcoholic coma; and that albuminuria may be due to congestion of the kidneys from poisoning by alcohol only. In one case in which coma was induced by the consumption of nearly two quarts of port wine, which were removed from the stomach by the pump, the urine was almost solid with albumen, and this all disappeared in two days. Lastly, we must remember that a patient frequently becomes comatose for a certain length of time after a severe epileptic fit.

I wish, therefore, to insist most strenuously on the difficulty of diagnosis in all cases of coma. The mode of procedure to be followed in order to arrive at a correct opinion should

be something like the following. In the first place, the patient should be carefully examined for blows on the head or for fractures of the skull; and we should then see if there is any hemiplegia, unilateral spasm, rigidity, or convulsion, and if there is any squinting or facial paralysis. We should next look at the pupils, but not lay much stress thereon. "Conjugate deviation" of the eyes, as if the patient were looking upwards over one or the other shoulder, increased perhaps by a rotation of the head and neck in the same direction, is a very important sign of apoplexy, and diagnostic if present. The next step is to inquire for a convulsion, and to examine the tongue and mouth for bites, blood, or froth. After this the urine should be drawn off by a catheter and tested for albumen and for alcohol. The heart must be carefully stethoscoped, and the position of its apex noticed. The legs should be exposed, and we should see whether they pit on pressure, and whether there is any puffiness of the eyelids or general œdema. If we are still in doubt, we must empty the stomach with the stomach-pump and examine the contents, again remembering that it must be used with especial care, and then no harm will be done to an apoplectic, and we may be led to the proper treatment, if the case is one of poisoning by alcohol, opium, or a narcotic poison.

Too much stress must not be placed on the history, although this must always be asked for. The general features of the attack are of but little significance from a diagnostic point of view, and we must not be misled by such unimportant and equivocal symptoms as the condition of the pupils and the smell of the breath. In the early stages of alcoholic coma and of coma from cerebral hæmorrhage the temperature is low, but it frequently rises in both to an excessive height before death.

I would add that in every doubtful case the patient must be kept under observation; and I am astonished that a small ward is not set apart in all our hospitals for the reception of such cases. As it is we must either dis-

turb a general ward filled with the sick and dying, or send the case to the police station, where perhaps he may die. A resident medical officer should not be compelled to choose between these alternatives—one laying him open to censure from the hospital authorities, the other leading perhaps to a verdict of "manslaughter from neglect" by a coroner's jury.

As the diagnosis of alcoholic coma is surrounded by so many difficulties, and a well-skilled medical man may fall into so many errors, or be able to form only a doubtful opinion, how absurd and wrong is it for such a diagnosis to be permitted to a policeman. Even when the cause of the coma is known, we must remember that alcoholic coma is due to *poisoning* by that liquid, and that in spite of the most energetic and best treatment a patient may die. Such cases, after being diagnosed, are therefore cases for a hospital, and not for the police-cell. What would be thought if we sent away cases of poisoning by other narcotics?—and yet we should frequently do less harm than by following the present system of dealing with cases of alcoholic coma.

Delirium tremens is usually diagnosed very easily, but oinomania—a peculiar form of insanity induced by alcohol, which I shall presently describe—may be confounded with it. In cases of delirium from insanity, and not caused by drink, actual delusions, not mere terrors or hallucinations, are of primary importance. The delirium of acute fevers and pneumonia may be mistaken for delirium tremens; but the pyrexia, history, and physical condition will guide to a correct diagnosis if the possibility of error is remembered. In all cases of supposed delirium tremens, the chest should be carefully examined; for the general features of the delirium in many cases of asthenic pneumonia, and in the pneumonia of drunkards, are an exact counterpart of the phenomena of ordinary delirium tremens, and I have seen two such cases asphyxiated in a few hours by the exhibition of opium, although not in very large doses, and in both pneumonia affecting the lower

lobes of the lungs was found on a post-mortem examination. Occasionally, also, the delirium of uræmic patients simulates the delirium of alcoholism, and the urine should be examined in every case, lest a dose of opium be incautiously given, and free sweating and purging be omitted. Delirium from fright or exhaustion presents many features of resemblance to delirium tremens, but the history is generally, if not always, forthcoming in such cases.

The following are the particulars of a typical example of delirium from combined fright and exhaustion which came under my observation. A temperate young man, aged twenty, was disturbed by a fire, and worked very diligently for several hours, during which period he partook of no food, and about two pints of beer and a little spirits. He returned home cold and wet, and for two days afterwards presented every symptom of delirium tremens, except that he was continually raving about the fire. It is not generally mentioned in text-books, but it is very important to be aware of the fact that one form of delirium tremens is attended with marked pyrexia, and is frequently fatal.

Attacks of delirium tremens beginning with severe epileptic fits are considered by most modern French writers to be characteristic of absinthe-drinkers, for experiments on dogs, and careful observations on patients, have shown that these are constant phenomena in cases of poisoning by that liquid; but I have seen cases in which attacks of delirium tremens and of oinomania have begun in this manner, and when no absinthe had ever been taken. I was called in, a few years ago, to see a Welsh clergyman who had several severe epileptic fits in succession, and found that these were the precursors of his sixth attack of delirium tremens, and he subsequently told me that all his previous attacks had commenced in the same manner.

Oinomania—the delirium ebriosum of old writers—is a peculiar form of insanity, in which the patient breaks out into paroxysms of alcoholic excess, attended with furious, violent, strange,

and frequently indecent, acts due to apparently uncontrollable impulses. In one case with which I was acquainted, the patient in several such attacks, was continually charging himself with having committed a rape during the paroxysm, although he was under constant supervision, and for part of the time was restrained by a strait-jacket. The attack lasts a few hours or days, and is succeeded by a long interval of sobriety and chastity. These patients have generally some hereditary taint; and not unfrequently evidences, though often slight, of a morbid mental state may be detected in the intervals if very carefully looked for. Such attacks of oinomania often lead to the more chronic forms of insanity, and the patient to whom I have just referred is now in an advanced stage of chronic dementia.

The treatment of acute gastric catarrh is very simple. The thirst is best allayed by giving a little ice to suck, plenty of iced water and iced milk. The vomiting may be combated by effervescing mixtures and hydrocyanic acid, and afterwards a saline purge is very valuable. All forms of alcohol must be rigidly proscribed; the diet must be of the simplest kind, and taken in a fluid form for a day or two. Passive exercise in the open air, or, if the patient be very vigorous, a brisk ride on horseback, is very beneficial. If the appetite does not speedily improve, alkalies, bitters, and carminatives are very useful.

In cases of acute coma the stomach should be at once emptied by means of the stomach-pump. Cold affusion, followed by energetic friction and the application of bottles filled with warm water, so as to keep up the temperature of the body, will generally revive the patient. If he is strong, a smart purge, or, if weak, a milder one, will be all the after-treatment that is necessary. I must enter a protest against the routine treatment of drunkenness too generally followed—viz., emetics or the stomach-pump, cold affusion, flecking the skin with a wet towel, and then the interrupted galvanic current. The patient, having grumbled out a name, and perhaps an address, is

turned over to a policeman, who speedily consigns him to a cold cell to sleep off his symptoms. It cannot be too often insisted on that a drunken man is suffering from acute poisoning, and must be watched and treated accordingly. Delirium tremens must be differently treated in the young and in the old. In first attacks in young subjects complete abstention from alcohol, light and easily assimilated food (milk diet), moderate purgation, and occasionally tartarated antimony in doses of from one-sixteenth to one-eighth of a grain, very carefully watched, have been most efficacious in my hands. If the patient is restless for two or three nights in succession, thirty grains of bromide of potassium, or twenty grains of chloral hydrate, may be given every four hours for two or three doses; but as the disease in young people is spontaneously curable, sedatives must not be pushed. One or more experienced attendants should be always present, but no form of mechanical restraint is permissible, for it always shows a lack of proper attendance.

In older cases a mild purge should begin the treatment, and light but very nourishing food should be administered at short intervals. Milk, beef-tea, raw eggs beaten up with milk, strong soup and such articles, are to be given freely, and very small quantities of stimulants may be occasionally put into them, so as to coax the patient to take them; when by careful management and good nursing a very severe attack may be tided over, and natural sleep will return in from three to seven days. I remember one case in which the patient could not be induced to take food, but he took his medicine freely—viz., sixteen to twenty ounces in twenty-four hours. This was a mixture of Brand's essence of beef, mushroom ketchup, and brandy, and the patient was doing very fairly. But such a mode of deception scandalised a consultant, who ordered food undisguised which the patient never touched, and orthodox quantities of opium, which failed to quiet him, and on the third day after the change of treatment he died from syncope due

to paralysis of the heart's action. The early administration of sedatives is to be deprecated, but should the restlessness persist, in spite of careful and assiduous feeding, a full dose of laudanum (thirty to forty minims) at bedtime is of great value. In the absence of albuminuria, lung-complications, or any sign of failure of the heart's action, I prefer this drug to other sedatives. If the opium alone fail, its combination with an alcoholic stimulant (brandy, whisky, or especially stout) often succeeds. If there be any tendency to syncope, if pneumonia should come on, and in cases complicated with shock, as in surgical injuries, a free use of stimulants is imperative. Hypodermic injections of morphia, and large doses of digitalis, have been recommended by many authorities; but I have seen them act most detrimentally, and I should now always hesitate to employ them. The cautious inhalation of chloroform vapour has occasionally cut short an attack by inducing sleep, but it much more frequently fails, and it has caused sudden death. Mechanical restraint is scarcely, if ever, necessary, provided the patient be properly nursed and attended to. Moreover a man will frequently take food from a female nurse, when he will refuse it from the hands of a male attendant. All methods of self-destruction must be carefully guarded against; and a padded-room, when available, is of the utmost benefit, and there should be one in every general hospital. To sum up the treatment of delirium tremens, a patient may generally be guided through an attack; rarely is an attack cut short, and if any attempt be made to do this, and it fails, such a mode of treatment is always prejudicial and may be fatal.

In cases of acute insanity from drink, restraint from violence and feeding are the main points to be attended to. I am very sceptical as to whether any drugs are of benefit; they ignominiously failed in the case I have mentioned—*e.g.*, in the first attack, which lasted thirty hours, and was treated with blisters, salines, and tincture of hyoscyamus; in the second

attack, which lasted twenty-nine hours and a half, and was treated with bromide of potassium freely and morphia hypodermically; in the third attack, which lasted thirty-three hours,

and was treated with chloral hydrate and tincture of digitalis; and in the fourth attack, which was treated in a similar manner, and ended in chronic mania.—*Lancet*, Dec. 22, 29, 1877.



THE LANCET ON THE USE OF ALCOHOL.

(From the *LANCET*, Dec. 22, 1877.)

THE interesting and important discussion which has been carried on in our columns during the last few weeks relative to the use of alcohol in moderate quantity, which was started by Mr. Brudenell Carter's record of his personal experience, may with advantage be summed up, and certain lessons drawn from it. The question which was raised by Mr. Carter's clear and candid record of experience was the old and much-debated one—Is the use of alcohol in moderation injurious to health or deleterious to the system; or is it not, on the contrary, an essential condition of health to some persons or in some states of life? And he desired, what we all must concur in desiring, "to place the question of the dietetic use of alcohol on a sound basis of medical knowledge and experience," believing "that the customary statements of total abstainers are to a large extent inaccurate, and that their arguments are in a great degree fallacious."

The challenge thus thrown down by Mr. Carter has been taken up by a number of gentlemen, the majority of whom are members of our own profession, and well qualified to give the results of their experience. But a glance at the whole course of the controversy shows that not only is there no great accordance between the results of their experience, but that their arguments for or against the use of alcohol vary in yet greater degree. The armoury of physiology, chemistry, and pathology has been ransacked; the condition of prehistoric, and therefore prealcoholic, man has been adverted to; the social, convivial, and

moral aspects of drinking have been commented on;—and from these, reasons have been drawn to support or condemn the use of alcohol.

But if we inquire what gain of knowledge applicable to use has accrued, we are obliged to confess that the records of individual experience of benefit or injury resulting from one or other habit are of far greater value than all arguments. It is a misfortune that it should have been supposed that the question of the value of alcohol in moderate doses as an article of diet could be solved by an appeal to physiology and chemistry. Anyone who has carefully followed the history of physiological experiments on the action of alcohol on the economy must be painfully aware how many gaps there are which yet remain to be filled before we can use the results of these experiments in the guidance of habits. The appeal to physiology has, we fear, on both sides of the teetotal controversy, been a dishonest one, though doubtless unconsciously so. Either side has been too ready to seize upon any experiment in proof of its position, and even so it has usually been necessary to construct a fallacious argument upon the doubtful fact in order to bring it to bear on habit and practice. If any proof of this were needed, it might be found in the use which has been made of the statements as to alcohol as a food, or its effects upon temperature, or in inducing tissue degeneration. In former days the observations of Percy, and the experiments of Lallemand, Perrin, and Duroy, were seized upon as a proof that alcohol underwent no

change in the system, but was retained in certain regions, especially the liver and brain, where it tended to accumulate, and was finally eliminated unchanged. Upon this were built theories of brain-hardening and liver-induration which, though they still survive in the "colloid and pectous" views of some would-be physiologists, are incompatible with our present pathological knowledge. So, too, of the question whether alcohol is a food, another controversy started on the similar ground that if alcohol underwent no change it could not act as a food. Of this question we need only say that it is a matter of very minor importance in its bearings on the subject. The observations of Anstie, Schulinus, Magnan, and others, prove that both the accumulation and the non-combustion theories are incorrect. In the same way the effects of alcohol upon animal heat, as deduced from experiment, have been made use of as a warning against its employment by those who are exposed to cold. But it is forgotten that the lowering of temperature observed is always after doses which for the animals experimented on are far out of proportion to the moderate quantity which may be taken with food, and that the very same experimenters have shown that a small quantity causes a slight rise of temperature. Nowadays, vascular "tone" and "tension" are in fashion, and it is by the effects of alcohol upon these that all the results are measured; and, as a recent popular author has put it, "Whatever good can come from alcohol, or whatever evil, is all included in the primary physiological and luxurious action of the agent upon the nervous supply of the circulation." It is thus that certain obvious and well-known physiological facts of one of the effects of alcohol are made to support the statement that "if it be really a luxury for the heart to be lifted up (*sic*) by alcohol; for the blood to course more swiftly through the brain; for the thoughts to flow more vehemently; for words to come more fluently; for emotions to rise ecstatically, and for life to rush on beyond

the pace set by nature; then those who enjoy the luxury must enjoy it—with the consequences."

It cannot be too strongly asserted that our knowledge of the physiological action of alcohol upon the system—nay, we might almost say our knowledge of vital processes *in toto*—is yet in its infancy. We are only on the threshold of the inquiry, and until it is further advanced we cannot too cautiously avoid hasty deduction and hypothetical generalisation. The long experiment and painful observation which have been lavished upon the subject will doubtless bear fruit in future years, and it may be that the full knowledge which we yet lack will surprise us by its simplicity. But as yet the most valuable part of our knowledge is, and must be, based upon observation and experience in actual life; and even when physiology and chemistry shall have done their utmost, experience must be the final judge. Hence it is a favourable sign that those who, by intelligence and knowledge are most fitted to judge of the effects of total abstinence upon themselves, should be turning their attention to the subject; and the medical profession will have earned a debt of gratitude unequalled by any of their former inquiries, when they have decided whether, and in what quantities, alcohol is beneficial to life, and most conducive to the support of mental and physical work.

When we look at the practical side of the question we do not find all difficulties cease. We have, on the one hand, the clear and decided testimony of some eminent members of the profession to the benefit they have derived from total abstinence, and on the other the equally clear statements of benefit from moderate use of alcohol, and injury from its entire withdrawal. Arguing from the known to the unknown, we suspect that there is much in physical constitution and in mental and physical habits which may account for the difference of experience, and that this difference constitutes a ground for the use of alcohol in some cases. There are probably few physicians who have not had some or many

cases under their observation of men of great culture and intellect, and of the highest moral and religious character, who have, in order to set an example to others, abstained entirely for months, or even years, continuing in the same course of life as before, and who have given way in health, lost their power of work, and, having tried all other means of restoration, have failed until they returned to the use of alcohol in moderate quantities. Such facts, and cases like that of Mr. Brudenell Carter, cannot be got over by any process of argument or ratiocination.

What, then, are the evils threatened by moderate indulgence, and in what way may benefit be produced by alcohol? It is said that even when no actual immediate derangement of the system occurs, there is less work performed, the energies are overtaxed, and the organism gradually, though imperceptibly, deteriorates. Let it be borne in mind that we are not speaking of any excess, however slight. Alcohol, it is said, paralyses the capillaries, relaxes the vessels, and accelerates the action of the heart, the work of the heart being increased, but to no good purpose. Alcohol in excess causes degeneration of tissue, therefore alcohol in moderation, taken habitually, must, though imperceptibly, cause a slow decay of the organs. The fallacy of these arguments, viewed as arguments only, is apparent, for they proceed on the assumption that the body is only a machine, forgetting that it is a machine which is constantly renewing itself, and that, therefore, unless its vital power of renewal is impaired in proportion to tissue decay, it will retain its normal condition, or may even improve in nutrition. Such mechanical and chemical pathology loses sight of one of the most essential factors in animal life. So that unless it can be shown that there is always a permanent evil result after each dose of alcohol, however small, we may assume that no evil results from the prolonged moderate use. Our present knowledge of alcohol goes to show that there are two sets of evil effects which are permanent, and that

these are related to diminished nutrition and to excessive stimulation. How far the molecular and fatty degeneration of highly organised tissues, such as muscle, nerve, and secreting cells, are due to overaction, has not yet been determined, but it is not improbable that a part at least is consequent upon deranged glycogenesis, due to frequent irregular stimulation of the liver, though, perhaps, more to direct action upon the tissues themselves. Excessive stimulation, again, appears to be the chief agent in the production of sclerotic changes, though how far this is aided by vaso-motor paralysis we are as yet uncertain. But in any way it is but the irregular ill-timed excitation of a natural function which leads to evil results, nor is there anything to show that the slight increment of the normal excitation, produced by the addition of a small quantity of alcohol to food, leaves any structural result behind. And, so far as observation goes, it would tend to the belief that a very large quantity habitually taken *may* have no tangible result.

In what ways alcohol may aid and benefit the system may be briefly indicated. Probably the benefit varies with different people. In three ways, at least, it is of use to many. Primarily, and probably in most cases, in promoting digestion; though we are not inclined to dogmatise on the exact method, for which various theories have been suggested. Another action which we believe to be most valuable, though it is urged against its use, is the temporary suspension of the power of fixed attention and thought. There are some men who, whether from a jaded anxiety or from mere intellectual activity, have little or no power of control over their mental work, and, from want of intervals of rest from thought, are apt to overbear their brain power. In some cases food or society is sufficient to cause a suspension of this constant strain; but in others a very moderate dose of alcohol with food alone gives the needed interregnum. In spite of what is urged against it, we are convinced that this is one of the most

valuable actions of alcohol in modern life, and a great aid to conservation of energy. The third, the production of sleep, is perhaps but a sequel of the second. Given a good constitution and a good digestion, absence of mental overwork or strain, and plenty of air and exercise, there are few who would be benefited by alcohol. But how few there are in the life of London and other large towns who are in a condition which can be represented even by the balance of function which we call health.

But we would not be misunderstood as recommending even a moderate use of alcohol in all cases, far less any excess, however small. No one can doubt the enormous moral, physical, and mental deterioration which exists and is constantly being aggravated by excess in drink. Nor could anyone doubt the benefits of moderation or even of total abstinence in a large number of cases, especially where habits of excess, however slight, have prevailed. The drinking habits of young men in the present day are appalling, and threaten physical as well as moral deterioration of our race.

What, then, is to be understood by excess. Excess may be in quantity, quality, or time. Alcohol in any shape or form should never be taken except with meals, and, we believe, preferably at only one meal in the day. The habit of drinking in the forenoon is pernicious in the extreme, and in our opinion

wine or beer is best avoided at luncheon. In quality there are two things to be considered, combination and dilution of the alcohol, and digestibility of the liquor. That natural light wines and light ales are best when they do not disturb digestion by their other ingredients than alcohol everyone will admit, and where these disagree, recourse must be had to stronger liquor diluted. In the opinion of many foreign authorities much of the evil of drinking in England is due to the fiery and potent nature of our habitual drinks. As to quantity, it is far more difficult to lay down any rule, for that which may be taken with benefit by one person, or at one time, may injure at another. The quantity which is usually taken at a dinner party would, if taken habitually, be undoubted excess. For young and active men a glass of beer, or one or two glasses of claret, at dinner is, we believe, an ample supply; whilst men of middle age may with advantage "stop at the third glass" of claret, sherry, or port, and fear no ill-result. But beyond such general injunctions the infinite variety of constitution, habit, and digestion, would make any detailed prescription worthless. The ultimate test in every case must be experience, and until men have enough moral control and discretion to limit their drinking to that which they absolutely require, all direction and rebuke will be thrown away.

DR. BEVERLEY ON INTOXICANTS.

At a recent meeting in Norwich Dr. MICHAEL BEVERLEY, assistant-surgeon to the Norwich and Norfolk Hospital, said that the use and abuse of alcoholic drinks was the most frequent cause of accidents, disease, and premature death; and if any persons were sceptical, he assured them that a six years' residence in the Norfolk and Norwich Hospital enabled him to state with some degree of authority, that to strong drinks, more than to

any other cause, were due the great majority of serious accidents, and a very large proportion of the diseases which were received in the hospital, during his residence; and he had no reason to believe the state of things had altered of late. When a severe accident was brought to the hospital, involving some capital operation, one of the first questions put by the surgeon invariably was, whether the man was temperate in his habits.

Why was this asked? Because experience had taught the incontrovertible fact—that a previously sober life ensured a good chance of recovery; a previous life of abstinence, almost certain recovery. Whilst, on the contrary, to a man similarly circumstanced, whose previous life had been intemperate or that of a hard drinker, the chances of recovery were almost infinitesimal. This was not simply because his nervous system is less able to withstand the shock of a severe accident or operation than the sober man; but because the constant use, and especially the abuse, of alcoholic drinks led to certain organic structural changes throughout the entire body, especially in such vital organs as the heart, liver and kidneys, as to render the individual more or less permanently diseased and disabled, and thus unable to exert that reparative action which Nature, if uninterfered with, had at her command apparently to meet such emergencies as these. About two years since it fell to his lot to have to amputate both the arms of a shepherd, and owing to the severity of the accident for which the amputation was requisite, it was considered such a forlorn hope, and the man was so nearly dead, that a physician present remarked after one arm had been removed that it was useless to proceed with the other. However, he went on, and the man rallied and recovered without a bad symptom. His master, Sir. H. Stracy, afterwards informed him (the doctor) that this patient was one of the most sober and steady men on the Rackheath estate, and to this he owed his recovery. He could enumerate many similar examples, and give them, were it desirable, many painful illustrations of the reverse side of the picture; but those applied more especially to what was termed the abuse of alcoholic drinks. It was, however, very difficult to state the particular point at which this so-called abuse began; as, strictly speaking, he believed the employment of alcohol in any form as an article of food or drink was quite unnecessary to a healthy subject, and, therefore, its

use at all might be interpreted as an abuse of those laws which Nature does not allow us to transgress with impunity. Alcohol in any form, was not a natural drink like water or milk. It could not be considered a natural food; it was in every sense of the word artificial. Children could be brought up to adult age—strong, healthy, and happy—without it; indeed millions of human beings had lived long and strong lives without it, and with a greater freedom from disease than that portion of the human race to whom civilisation had amongst other vices added that of the use of alcoholic drinks. It was indeed one of the greatest phases of human civilisation that the dire results of alcoholism went hand in hand with its progress. He would refer all who were interested in and wished to obtain a comprehensive knowledge of the subject, to Dr. Richardson's lectures on alcohol, published by Macmillan; and to a little book, just published by the same author, called "The Temperance Lesson Book." This latter was written in such a simple style that it might be introduced with advantage into any educational course—even that of a board school; and this, in his opinion, would be the best possible method by which the habitual and customary use of alcoholic drinks in this or any other country could be radically prevented. Legislate, and put all the legal restraints possible on the sale of intoxicating liquors, it was one means to a good end; inaugurate temperance societies, as their influence must be for good; but if they wanted to bring about a healthy tone throughout the land, they must strike at the root of the evil, and in the bringing up of their children, not only keep them without stimulants, but take care that such instruction as Dr. Richardson had drawn out in his Temperance Primer form part of their education. He ventured to say that having learned well the reason, and if they thoroughly understood the *rationale* of the action of alcohol in the human body, and the deterioration which it effected on the mind and on

the body, that such a good percentage of abstainers would arise in the next generation, it would become the exception rather than the rule to see the alcoholic beverages in such daily and constant use as, he regretted to say, they were at this present time. His opinion, as a medical man, was that it was not only quite unnecessary, but positively injurious, to give young folks any form of stimulating drink, unless it was ordered medicinally, and this need be but seldom, and should be made uninviting by the addition of a little tincture of gentian or other bitter. The half-glass, or even glass, of port which some mothers thought so requisite for their sickly-looking children—and which he regretted to say some doctors even encouraged—in the large majority of cases did far more harm than good. Here Dr. Beverley read a quotation, which was singularly *apropos*, from an address by Mr. Thomas E. Amyot, President of the East Anglian branch of the British Medical Association, at a meeting of the Society at Diss, in June. "The old, old vice of intemperance, the fertile source of 90 per cent. of the crimes we commit, and of a large proportion of the diseases we suffer, I would say that the powers of the Legislature, the power of the clergy, the power of the magistracy, all good in their way, are as nothing against this hideous curse in comparison with the powers within the grasp of the medical profession. If we try by persuasion, by physics, or by other means to effect the reform of confirmed drunkards, we shall do well; yet our success will be as limited as that of others; but if we strike at the evil in its earliest development we shall succeed. And how is this to be done? By discouraging and forbidding with the authority that the 'doctor' only can discourage and forbid the use of any form of stimulant in healthy childhood. It is in childhood, in nine cases out of ten, that the taste for stimulants is formed. The child looks pale—want of fresh air and the use of improper food being probably the cause—port wine is given, and port wine is nice; the habit becomes a necessity,

for the digestive organs will not act without the stimulus to which they are getting accustomed. Childhood over, the boy takes to beer and tobacco, and the girl to sal-volatile, eau-de-Cologne, or to anything else that comes to hand. It is needless to go further. Men and women of certain temperaments can exercise self-control, and take little harm—these are the tens; the rest become intemperate, respectably intemperate, foolishly intemperate, criminally intemperate, or madly intemperate—these are the thousands.

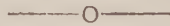
"I am aware that there are some conditions of childhood which may require the use of stimulants, and brandy and port wine may be the best we can use; but if so, let us, at least, make them utterly distasteful to the palate; a few drops of the tincture of bark in the wine, or of gentian in the brandy will effect this, and, above all, let us discontinue their use at the earliest possible opportunity.

"This discontinuance is a very important matter indeed, and it too often slips the attention of the doctor. I believe that a great privilege and a great duty are ours, of which, if we avail ourselves fully, we shall deserve and obtain the very heartiest thanks that a thankful world can give us. I implore you not to let the hackneyed nature of this great subject deter you from its study. . . . We may not think it necessary ourselves to become total abstainers, but at least let us throw neither ridicule nor opposition in the way of those who advocate it. They have a high authority for their opinions and a splendid justification of their conduct in the words of one of the noblest of men, who said, 'It is good neither to eat flesh, nor to drink wine, nor anything whereby thy brother stumbleth, or is offended, or is made weak.'"

Dr. Beverley continued that he wished it to be understood he had spoken generally—conscientiously believing and personally testifying to the effect that alcoholic drinks, even in their mildest form, were not requisite to the well-being of an ordinary healthy man. But because this was

the case, it did not follow, either that they were never to be used at all, or that all who had employed them were to cease doing so. In this and in most other artificial acquirements, no hard-and-fast line could be laid down for universal guidance; and although the action of alcohol on the human body was much better understood now than it was formerly, and had been found for the most part to be prejudicial rather than beneficial, and although the use of it as a medicinal agent would probably have to be much modified, still he wished it to be distinctly understood that he believed there were individuals whom either from long-continued use, or whose circulations were enfeebled by age or infirmity, to whom it might be necessary that alcohol, in some pure form or least objectionable combination, should be administered, and even form an important item in their daily bill

of fare. Harm and even loss of life had resulted from the sudden cessation of stimulants (though far less often than generally was supposed), and anyone proposing to discontinue them should do so under the watchful eye of the family doctor. In his own case he left off drinking the accustomed two or three glasses of beer and an occasional glass of wine, simply because as his work increased *he found he could do it better without the stimulant than with it.* From others he had elicited similar experience; and guided by this, having considered the subject from its scientific and physiological aspect, he came to the conclusion which he had stated—viz., that if a healthy man had work to do, physical or mental, he could accomplish it better without alcohol than with it. He had come to regard it as an agent, whose use should only be occasional, and then chiefly medicinal.



ON INTEMPERANCE IN WOMEN.*

By JOHN HADDON, M.A., M.D., *Eccles, Manchester.*

Is there much intemperance amongst women? Among men we know that intemperance is rampant in all classes of society; but, so far as I know, women are, and have hitherto been, less addicted to the use of intoxicating drinks than men. This we can understand, as man generally exercises authority over woman. Be this as it may, intemperance is said to be spreading amongst women, not only of the lower classes, but also in the higher circles of society. Police reports prove to us the increase of drunkenness in the lower strata of the female community; but how shall we ascertain its progress among the upper classes? The victims of intemperance here are seldom guilty of such conduct as to bring them under police care; and still, if we look around us, and observe the numerous advertise-

ments setting forth the adaptibility of various establishments for the treatment of "ladies addicted to intemperance," we cannot doubt, on the principle of "supply and demand," that this evil is on the increase. The medical profession, as a body, could no doubt give us some definite information on the subject, since the "doctor" is the friend and *confidante* of all classes of society; but, so far as I am aware, it has not been discussed by the profession. Nevertheless, though it is difficult, or impossible, to point to actual statistics to prove that intemperance amongst ladies is on the increase, I greatly fear that those present are painfully conscious of the fact, and so, taking it as proved that intemperance in women is common, we next endeavour to determine the causes which tend to this unhappy state.

* From a Paper read before the British Medical Association.

1. First amongst these, I would point out the common practice of

using stimulants in some form as a beverage with meals in the family, and as a mark of hospitality to strangers. In England, this is carried out to a much greater extent than in Scotland; but even there it is common. Beer or wine of some kind is too frequently used at meals by children, who soon learn its power. We need not wonder then if, learning the use of stimulants at an early age, some of our young ladies become addicted to intemperance when they have houses and cares of their own, and are comparatively free from restraint.

Again, as a mark of hospitality wine is universally used; and that custom termed "calling" is attended with much danger, owing to the fact that wine is often produced, and partaken of, it may be, in the early part of the day. Ladies having a large number of calls to make may thus be led into temptation, and unwittingly and innocently acquire a habit which will ruin them outright; this custom, however, I am glad to think, is rapidly diminishing. At evening parties, too, where dancing is the chief occupation or amusement, the seed of much evil is sown. Heated in the dance, which our young ladies can keep up for such a time, they retire to the refreshment-room, and, resting there, they indulge in their choice beverage, while they are entertained by the intellectual conversation of their partners.

2. It has been alleged that the medical profession is to blame for a large amount of the intemperance which we deplore, because the practitioner frequently prescribes alcohol in some form to his patients. There may be truth in this; for if we consider that strong-minded, strong-willed men, by the regular use of stimulants, become confirmed drunkards, it is very probable that out of the large number of physically and morally weak females for whom stimulants are prescribed, many may learn their power and give themselves up to their abuse.

3. A very potent cause of intemperance in both sexes, and probably the commonest cause of all, is the relief which stimulants afford to those suffering from cares, domestic or

otherwise, real or imaginary. Weak mortals in their hours of trial and trouble who know this power of stimulants and are ignorant of another and better remedy, rush into intemperance, and in this way its ranks are crowded with its most inveterate and hopeless victims.

And now let us consider the effects of intemperance on women.

1. *Effects on the Constitution.*—On man the effects of intemperance are pretty well known. He seldom attempts to deceive us; and even if he does, with moderate care, we can generally make a correct diagnosis of his case. It is, however, far otherwise with women. Happily it is still regarded as a great disgrace for a woman to be intemperate; and so she is bent upon deceiving us. We need expect no help from her in arriving at the real cause of her ailments, and it is very probable that the young and inexperienced practitioner will be unable of himself to arrive at a correct diagnosis or appropriate treatment. His patient, with a success which is pathognomonic, will conceal from him her failing, and he will, in the great majority of cases, receive from her husband or friends not even a hint as to the real cause of her suffering. Could he once find his patient intoxicated, showing the slightest symptom of inebriation, or even smelling of drink, his suspicions might be aroused; but he may watch a case carefully for a lengthened period, and never be allowed such an opportunity. Various perfumes are had recourse to to overwhelm the alcoholic odour, and if he should happen to call when the patient has not full command of her powers, there will be some plausible excuse for not seeing him. Ladies as a rule take small quantities of their favourite tippie, just sufficient to produce the effect desired, and they may do so for long enough before even the husband discovers the truth.

* Under such circumstances, how important it is that we should know any symptoms likely to be developed in an intemperate woman, lest, unhappily, we prescribe stimulants for symptoms which are themselves the results of

intemperance; and this has actually to my knowledge been done by men of long experience and reputation in the profession in Manchester. If we excuse and fully sympathise with senior members of the profession when such unfortunate mistakes are made, what can we expect from our younger brethren who know nothing of, and in their innocence never suspect, intemperance in woman as a cause of disease?

What, then, are the effects of intemperance in women? The digestive system, as a matter of course, suffers. The tongue is occasionally tremulous, has a flabby furrowed aspect, with a very slight coat of a white or brownish tint. The appetite is capricious, and there is frequently sickness in the mornings. They have little relish for breakfast or dinner, but as a rule enjoy a good supper. They seldom drink any stimulants with meals, and are apparently abstemious. The bowels are irregular in their action, with frequent diarrhœa. Sleep is often disturbed, and they get up in the morning with a feeling of fatigue. Hysterical symptoms are commonly met with, accompanied with severe neuralgia. The pulse is fast and soft, and frequently palpitation is complained of. With all this, if they are otherwise healthy, they do not become thin or emaciated; but, on the contrary, grow flabby and stout. These may be taken as general accompaniments of intemperance in women.

In all who have not reached the menopause, there is irregularity in the menses, with a tendency to menorrhagia, which may amount to actual flooding. Such a condition, apart from uterine disease, would lead us to suppose that the blood was in a watery state, or deficient in fibrine; but I have observed cases of intemperance in which the menstrual fluid was highly coagulable, giving rise to coagula in the uterus itself, and simulating abortion. Cases of this kind I published in the *Edinburgh Medical Journal* in January, 1872. Thus, it would appear, if my observations are correct, that we may have two very different effects from the same cause. The unmarried suffer from obscure uterine and ovarian symptoms

which obstinately resist all treatment; whereas, the victims of intemperance in married life, in addition to such ailments, are subject to frequent abortion, generally in the early months of pregnancy. As a rule, conception takes place readily, and the rapidity with which abortion follows abortion is truly appalling. Syphilis has a well-earned reputation as an abortifacient, but it must yield the palm to confirmed female intemperance. Against the syphilitic taint we can direct our treatment; and, in time, without treatment, the taint may disappear; but the intemperate woman is curable by no drug, and her infirmity increases with her years.

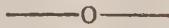
Such are the effects of intemperance on the body of its victim; its effect on the mind is, if possible, worse. The moral sense is deadened, and no sacrifice is considered too great for the gratification of the morbid appetite.

2. *Effects on the Family.*—On her family, the effects of intemperance are strongly marked. Children born at the full time are generally weak and puny, and likely to fall at an early age victims to disease.

If the effect of stimulants taken to excess by women be such that the uterine functions are affected as I have pointed out, we cannot be far wrong in concluding that their moderate use must have an effect which differs only in degree, and not in kind. If this be so, it is possible that a large proportion of our excessive infant mortality may be due to the malnutrition of the embryo, caused by the use of alcohol. Suggestions have been made to treat the child *in utero*, by giving medicine to the mother; let me rather suggest, that we first endeavour to prevent the mother from eating or drinking anything which is likely to interfere with the nutrition of her unborn child. Preventive medicine is being studied more assiduously now than it has hitherto been, and I cannot help thinking that great results might be obtained were more attention bestowed upon the bodily training of our female population, and the proper regimen of women during the puerperal state.

The cure of confirmed intemperance is beyond the power of medicine. Nothing short of restraint need be prescribed, and so we must do what we can to induce the legislature to place dipsomaniacs on a somewhat similar footing to the victims of insanity; then they might be received into suitable asylums, and many, we have good reason to hope, would be permanently cured. It is in preventing intemperance, however, that the best results may be looked for; and if the profession would use its influence to remove the causes which I considered as first and second, the third would be deprived of much of its power. If we by our advice and counsel could limit the use of stimulants in the homes of our patients, or banish them altogether, we would deserve well of the nation. As to prescribing stimulants, I cannot help thinking that wine, &c., however

much it may please the palate, and raise our spirits, is hurtful to health, and in disease requires the utmost discrimination in its use. In one case, it may be beneficial and tide over a critical period; while, in another, it may be hurtful and cut off the very last hope of life. With such an agent, then, it becomes us as a profession to be very careful, lest by want of thought we kindle a fire which it is beyond our power to extinguish. Let us consider well our responsibility, that we may not be the means of driving our fellow-creatures into temptation. Let us take care that no unhappy wreck can point to us as the cause of her ruin, and if, by the reading of this paper, but one British maid or matron be kept out of temptation, or arrested on the road to ruin, I will not consider that it has been read in vain.



TAQUET ON HEREDITY IN ALCOHOLISM.

By CHARLES ALDRIDGE, M.D.

MONTESQUIEU has said that the strength of a nation depends upon the number of men it can call into the field when threatened by an enemy. The history of the late disastrous war showed that in spite of courage and arms of precision this remains true, as the victory was with the large battalions. Whence this physical decadence? The year 1873, compared with 1872, shows an increase of 51,523 on the total mortality, and a diminution of 19,636 on the birth-rate. M. Taquet would place the abuse of spirits in the first line of causes which tend to depopulation. If the drunkard were the only sufferer by his excess, consolation would be easy; but, as Lancereaux has said, alcoholism is not only a disease of the individual, but is a family disease, and projects its evil influence upon the race. M. Rousel says, "Absorbed by a taste which quickly transforms itself into an irresistible need, one sees alcohol impregnate strongly the or-

ganism, alter the radical forces, and degrade little by little the physical and moral nature of the man. One sees it follow the individual in his offspring, his family receiving from him a fatal heritage in debility, deafness, a crowd of nervous disorders, moral imbecility, idiocy, mental alienation, and wicked instincts. The Indians of America have disappeared before the destructive powers of alcohol, when fire and sword failed to vanquish them. Nor is this fact new in history, for the legislation of Lycurgus favoured drunkenness in the conquered, in order that their healthy aspirations might be dulled, and that they might the more easily submit to slavery."

In alcoholism, as in all affections which are transmitted from ancestors to descendants, we may recognise the heredity of similitude, as well as the heredity of change. The heredity of similitude presents itself in two aspects. It remains latent, and requires the influence of example and circumstance

to awaken it, or it may burst forth in a sudden manner without seeming cause. Esquirol reports a case where the death of a grandfather and father had quickly followed their thirst for drink, in which the little son at five years of age showed a decided taste for the same kind of drink. M. Taquet knows of a case where a person died early from alcoholic excess, leaving an infant, who at a very early age showed a decided tendency to intemperance, until now, at maturity, he has developed a partiality for the same drink which his father loved. Fusch speaks of a dissolute drunkard who came to his end after having plunged his family into profound misery; two of his sons early presented the same vice, and the third, after remaining sober until his thirtieth year, suddenly drank in a violent way. Of suicide associated with alcohol, the history of the family Dufray presents an interesting example. It consisted of four brothers, who were addicted to the most excessive drunkenness and licentiousness. The eldest drowned himself, the second hanged himself, the third cut his throat, and the fourth threw himself from a third story and was killed. Drunkenness is a complex state, being generally accompanied by physical or nervous disturbances, as will be seen in the following example.

Observation I.—The head of the family was a drunkard and debauchee. His wife was remarkably sober, although the daughter of a drunken father, and sister to two youths who both had inherited their father's vice. Of this marriage were born three boys and two girls. The eldest is as immoral as his father, and presents an organic lesion of the heart. He married a wife, who seems to offer nothing abnormal. They had three children, two girls and a boy. The eldest manifested violent sexualism at an early age, and gave birth to a hydrocephalic child to an unknown father. The second girl is almost as dissolute as her sister, and the boy is quite imbecile, epileptic, and a drunkard.

2. The second son has been treated twice, in an asylum, for mania with homicidal impulses.

3. The third son, after an existence of debauchery and pleasure, died at the age of twenty-one years, of consumption, hitherto unknown in the family.

4. The eldest of the girls has been married for twelve years to a sober, intelligent man. Out of six of their children, the heredity has fallen upon one, who is drunken, licentious, and a thief.

5. The youngest daughter has lost all moral sense and decency, leading a most irregular life, although well married.

This observation presents two interesting considerations, viz. :—

1st. Sexual desires show themselves early in the children of drunkards, and are associated with an absence of moral sense.

2nd. Phthisis, when not hereditary, is capable of being produced by spirituous excess. Magnus Huss and Launy have supported this thesis by numerous examples.

Observation II.—The father died of cerebral softening, determined by alcoholic excess. The mother died of ascites; cause unknown. The result of this marriage was one daughter, who married a man who has no trace of hereditary disease. They have had six children: 1st. An idiot, born blind; 2nd. An imbecile; 3rd. An imbecile; 4th. Imbecile and born blind; 5th. Well gifted, morally and physically; 6th. Born an idiot. Here we find the evil influence passing over the immediate descendants and attacking in various ways the next generation.

Observation III.—The grandfather was a drunkard, which is all that is known of him. His wife died of cancer; an only son, a rough and violent fellow, died of alcoholism in an asylum for the insane. The son of this latter was of an extremely impressionable nature, not able to bear the sight of any cutting instrument, and was liable to be thrown into a state of nervous excitement at the sight of a soldier or an armourer's shop. He married, and since has had an attack of mania, during which he attempted suicide. He has had three children, of whom the eldest died soon after birth; the

second, not yet two years old, presents nothing worth notice; the third was hydrocephalic, and died in convulsions.

Other things being equal, the hereditary transmission, to whatever order it appertains, will be more surely by the mother than by the father. The hereditary influence of the mother is noted by Esquirol in the physiognomy, in the conformation of the body, the habits and predilections. Baillarger and Dagonet support this, and Gintrac says, "The mother exercises a double action—one which she shares with the father in the conception, the other which is proper to her, and which depends upon the relations established during the intra-uterine life between her and the product of conception. For this reason intemperance in the female, if it be not passing, will have in all cases exceptional gravity. The children of female drunkards, if they escape the morbid influences which compromise their existence in the womb of their mother or at birth, are often idiots, imbeciles, insane, or epileptic. These divers affections are the consequences of cerebral congestions, of hæmorrhages into the membranes or nervous substance, of encephalitis, of softening chronically, determined by the abuse of alcohol by the parent." Of all the manifestations of alcoholic heredity, epilepsy is believed to be the most important and the most common. Of 95 epileptics examined, M. A. Voisin found twelve who had scrofulous and true tubercular antecedents; 12 had ancestors who died from alcoholic excess, or were subject during their honeymoon to excessive abuse of alcohol. Marcet reports of a drunkard who had 16 children, that five were dead and the remainder epileptic. One, G., who was proved to have been in a state of constant drunkenness for some time, had a child born to him, who from its youngest infancy had convulsions, and is now a confirmed epileptic. We believe that convulsions in infancy are neither more nor

less than incomplete signs of epilepsy, and that they predispose singularly to mental alienation. Van Swieten has said, with reason, that perhaps there is not a lunatic who has not had convulsions in his infancy.

One other accidental consequence of drunkenness is that it diminishes the elements of vitality in the child, so that it comes into the world with but half an existence, so that the least blast falling upon it will prevail.

That alcohol carries into the composition of the fecundating material modifications of which we are ignorant, must be admitted. In fine, we would point out hydrocephalus in the offspring following alcoholism or simple drunkenness in the parent. The children of drunkards are not all of necessity idiots, lunatics, or epileptics, but there are few that present nothing abnormal; and in those of seeming freedom the germ may be late in developing itself. It is not rare to find precocious cerebral excitement displaying itself most frequently in a good memory. They are parrot-like, and display a remarkable aptitude for some particular pursuit. It will, however, often be found that they do not fulfil the promise of their early years, seeming to have produced in their youth all of which their organisation is capable. Some find their way early to the gaol, others are eccentric in all their ways and beliefs, and constitute the class of pretentious imbeciles. Nature would seem to have a horror of the anomalies and monstrosities that alcoholism induces, so that it often rejects from the womb. Darwin tells us that the families of drunkards become extinct in the fourth generation, after having descended through the scale of physical and intellectual degeneration.

Dr. Taquet concludes by remarking that the children of drunken parents are more liable to attacks from prevailing epidemics and sink under them sooner than other people.—*London Medical Record*.



Notes and Extracts.

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TEST FOR ALCOHOL.—A very sensitive reagent for alcohol, and one that is very simple in its mode of application, has been found by M. Jacquemart. It is a solution of nitrate of mercury obtained by treating the metal with a little nitric acid of average concentration. The action is vigorous and rapid. The mercury is brought in part to the minimum of oxidation, and if a little ammonia be added to the mixture, after the reaction, a dark precipitate is obtained, which is darker the more there is of alcohol in the product suspected. Methylic alcohols and similar liquids do not give a dark precipitate with ammonia.—*The Doctor*.

DIPSOMANIA.—Dr. Bodington very well urges in a late address, "The confusion between drunkenness as a disease, and drunkenness as a vice, must be cleared up. For my part, I look upon all habitual drunkenness as a disease, and I would boldly call it all dipsomania. It is in its character as a disease that we physicians are entitled to deal with it. I would sink the notion of its being a mere vicious propensity. When fully developed there are not two kinds of habitual drunkenness. The cases are, one and all, cases of dipsomania, of irresistible, uncontrollable, morbid impulse to drink stimulants."—*Medical and Surgical Reporter*.

A GIGANTIC INNKEEPER.—Our Newcastle-on-Tyne correspondent sends us some particulars as to Mr. William Campbell, landlord of the "Duke of Wellington," in his town. Campbell boasts of being the largest subject in Her Majesty's realms, standing six feet four inches in height, and weighing over fifty-two stones. He measures round the shoulders ninety-six inches, round the waist eighty-five inches, and round the calf of the leg thirty-five inches. He was born in Glasgow in 1856, and has not quite

attained his twenty-second year; was one of a family of seven children, none of whom beside himself are of more than ordinary proportions. His father was of average weight, although he stood six feet two inches high; his mother was rather under the average height and weight of women. Campbell stated that from birth he was remarkably stout, and that at nine months old he weighed four stones, at ten years of age he weighed eighteen stones, and he has gone on increasing since then, and it is with difficulty he keeps at his present weight. He was brought up as a printer, but was compelled from his extraordinary size to give up his occupation. Our correspondent found Campbell to be an intelligent and agreeable young man, having good health as a rule, but on his visit suffering from the effects of cold and slight erysipelatous affection of the leg. His powers of locomotion when well were considerable, taking into account his huge bulk; his appetite was not more than an average one, and, although not an abstainer, he was moderate in his use of alcoholic drinks. He admitted to our correspondent that he was a great smoker, which, in our correspondent's opinion, might account for a weak and rather irregular cardiac action observed on auscultation; and our correspondent is further of opinion that Mr. Campbell's present occupation, however it may add to his weight and popularity, is scarcely likely to be conducive to his health and longevity.—*Lancet*.

INTOXICANTS IN THE WORKHOUSE.—At a meeting of the Clapham and Wandsworth Board of Guardians, on Thursday, March 14, the Rev. Canon Erskine Clarke in the chair, Mr. Haydon called attention to the fact that from the returns laid before the Board at its last meeting it appeared that there were 351 inmates in the infirmary,

being only 16 less than at the corresponding period of last year, whereas it appeared that during the week for which the return was issued the consumption of certain liquors, as compared with the corresponding week of last year, was as follows:—Wine, 1877—335 oz.; 1878—147 oz., or 188 oz. less. Brandy, 1877—242 oz.; 1878—24 oz., or 218 oz. less. Gin, 1877—272 oz.; 1878—46 oz., or 226 oz. less. Whisky, 1877—490 oz.; 1878—118 oz., or 372 oz. less. Porter, 1877—899 pints; 1878—621 pints, or 278 pints less. Ale, 1877—106 pints; 1878—7 pints, or 99 pints less. And milk, 1877—672 quarts; 1878—598 quarts, or 74 quarts less.—At a special meeting of the Boston Board of Guardians on January 5, the Chairman (Colonel Moore) said that they, as a Board of Guardians, were being held up to public ridicule because they spent more money in stimulants than any other Board in existence—taking the area and the population into consideration. He had gone a little into the subject, and had statistics in support of the statement he had just made:—8,192 paupers in other six Unions in the county cost in stimulants only, £342 8s. 4d., whilst 1,819 paupers in the Boston Union alone cost £396 7s. 11d. Or if (said he) we take all the other Unions in Lincolnshire (13) we find 14,588 paupers last year cost £90,395, whilst Boston's 1,810 paupers cost £13,567. The average per head of the Boston paupers' expenditure on population is greatly in excess of the whole of the county, nearly 2s. above the highest, and 4s. 3d. ahead above the lowest. I have taken Unions in this county nearest to the population of our own. In the Sixth Annual Report of the Poor-law Conference I notice many Unions do not give stimulants at all, except in extreme cases, as medicine; and statistics are given showing that in a population of 40,000 the average cost of stimulants has been only £23 1s. 4d., and that the ratio of deaths and pauperism has decreased in proportion as stimulants have been withdrawn. He suggested that the medical officers be informed that in all cases where stimu-

lants are ordered by them, a special report must be made each board-day for the sanction of the Board to the same, and require them at once to revise the list and report specially upon each case under treatment with stimulants.

EXCRETION OF ALCOHOL BY THE KIDNEYS AND LUNGS.—Professor Binz, of Bon, with the assistance of Herrn H. Henbach and A. Schmidt (*Archiv. f. Exper. Pathologie*, vi., 287), has lately re-examined this question, using Geissler's vaporimeter for the detection of small quantities of alcohol in the urine, instead of the ordinary chromic acid or iodine reaction, and the same method for the pulmonary vapour, the latter being previously condensed by passing the breath through a series of Wolff's bottles containing cold distilled water, or through a Liebig's condenser. With the vaporimeter as little as 0.05 per cent. of alcohol can be detected, though certain precautions, fully described in the original, are necessary for its accurate use. Admitting all possible errors, experiments on the urine of six patients with various febrile affections (erysipelas, pneumonia, phthisis, &c.) showed that during a period of eight or nine hours after a given dose of alcohol had been taken, not more than 3.1 per cent., or at the highest computation 6 per cent., escaped by the kidneys, while in some determinations no alcohol at all could be discovered in the urine. With regard to the excretion by the lungs, it was found that if from thirty to sixty cubic centimetres of pure alcohol were drunk diluted with syrup, and the patient's breath were condensed continuously for one or two hours, and the product examined either immediately after the ingestion of the alcohol, or at any time within six hours, not a trace of alcohol could be found in it. Even assuming that alcohol ingested required fifteen hours for the whole of it to evaporate by the lungs, the vaporimeter method was delicate enough to detect the fraction of it which would have escaped during the progress of the experiment. The idea that alcohol is present in the breath after wine or spirits have been drunk de-

depends on the odour imparted by the presence of various ethers, fusel oil, &c., and not of alcohol. A quantity of pure diluted alcohol, equal in volume to half a bottle of champagne, may be drunk without tainting the breath in the least; and alcohol may be subcutaneously interjected with the same result, though it is immediately detected if a little fusel oil is added to it first. Reasoning from analogy, Professor Binz and his assistants regard it as improbable that the skin should eliminate alcohol, if the lungs, which are so much better constructed for excreting it, do not do so. They conclude, therefore, that by far the larger part of any ingested alcohol is disposed of within the organism in the process of tissue-change; and, if we remember rightly, this is the conclusion to which the late Dr. Anstie was also led by his own experiments.—*Medical Times and Gazette*. [We give the experiments of Professor Binz for what they may be worth, but careful investigators will be cautious in accepting his conclusions. His inability to discover what has become of the alcohol is no proof that it has been usefully disposed of in the system.]

ALCOHOLIC DRINKS IN FRANCE.—Dr. Lunier, a most indefatigable and zealous apostle of temperance, and one of the founders of the Temperance Society of France, has lately brought out a work on the production and consumption of alcoholic drinks in this country, and their influence on the physical and moral health of the population. The volume under notice, which is the completion of a memoir read by Dr. Lunier before the Temperance Society of Paris in 1873, is, as indeed may be inferred from the title, a most interesting production—interesting alike to the vendors as it is to the consumers of wines and spirits; and even philanthropists, political economists, and the medical profession, may derive most useful information from the work. From his official position as Inspector-General of Lunatic Asylums and Prisons in France, Dr. Lunier has been enabled to consult documents from which he has

obtained authentic information on the following points: 1. The proportion of offenders against the law prohibiting drunkenness in public; 2. The proportion of accidental deaths determined by excess of drinking; 3. The proportion of insanity caused by alcohol; the proportion of suicides attributed to alcoholism. On these divers questions, Dr. Lunier has arrived at conclusions which would make one shudder; and he has shown that the abuse of alcohol, whatsoever the form in which it is taken, will almost surely lead to crime, insanity, and suicide, if not to a lingering disease and eventual death. These, however, are only the immediate or direct consequences of the drunkard's evil habits; but when one contemplates the effects on the innocent victims that surround him, such as misery at home, brutal treatment of wife and children—the latter affected with idiotism, imbecility, convulsions, scrofula, pulmonary phthisis, and a host of other maladies, which are perpetuated even to the third and fourth generations—the picture is something awful, and no punishment can be severe enough for such offenders. Dr. Lunier, therefore, deserves the highest praise and gratitude of all right thinking men and women for his laudable efforts to put down the degrading vice; and if he had but a few more imitators, such scenes as are daily witnessed among drunkards and their families would be reduced to a minimum, society would benefit by the change, and the physical and moral condition of the people be improved in every way. To bring about these conditions, stringent laws and over-taxation of alcoholic beverages would be of no avail, unless, as Dr. Lunier observes, the populations received the benefit of elementary instruction and moral education, so that they might be able to read and learn for themselves the dangerous consequences of the abuse of alcoholic liquors. Dr. Lunier suggests other measures for the suppression of drunkenness, for which I must refer your readers to the work itself.—*British Medical Journal*.

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Original Contributions.

DR. ALFRED CARPENTER ON ALCOHOL.*

It seems to us, in view of the present attitude of the medical profession towards the question of total abstinence, that its advocates may safely begin to urge, in the interest of mankind, the circumspect advice of Pope, "oft said before, but ne'er so well expressed," namely—

"Be not the first by whom new things are tried,
Nor yet the last to cast the old aside."

For it is very clear that any who will not admit the possibility of total abstinence, the non-necessity for alcohol in conditions of health, are in a rapidly dwindling minority. Not so very long ago it would have required a very bold man indeed to have given utterance to sentiments such as were recently put forward by Dr. A. Carpenter, in his oration before the Medical Society of London. Any one, however, who has been an attentive reader of the various deliverances of many medical men on the subject of alcohol cannot fail to have observed that the views of most of these gentlemen are in a state of transition, and in several instances, when once they have shown a determination to question the received *dicta* of the schools, and to test for themselves the value of alcohol, whether as a diet or medicine, they have in course of time taken up a far more hostile attitude thereto than seemed at first at all likely, even to themselves. We are convinced that Dr. A. Carpenter has not yet reached his final con-

An Address on Alcoholic Drinks : as diet, as medicines, and as poisons.
Oration delivered to the Medical Society of London for the year 1878.

clusions on this matter, and his evident determination to follow the light wherever it may lead him, will not permit him to rest content in his present position.

He has already recognized and pointed out one of the greatest obstacles to the adoption of total abstinence, namely, the misleading power of the subjective sensations, so that "*personal experience*" of alcohol-drinking is not to be relied on scientifically. The judgment is biassed and bribed by the influence of alcohol in the very attempt to determine its value. On the other hand, the experience of total abstinence is not open to the same objection, since it makes the perceptive powers as clear as possible. The moderate drinker thinks his glass does him "good," and he, comparing himself with himself, is not wise. The "good" asserted must be demonstrated in power of accomplishing or being something which an abstainer, other things being equal, cannot do or be, and this has never yet been done.

But when, as physicians, we investigate the effect of alcohol on others we are almost equally liable to be misled. In too many cases it is impossible to discover the amount of alcoholic drinks which those under observation consume, whereas, in the case of abstainers, this disturbing element does not enter. It is only when alcohol is administered in its pure form and without the patient's knowledge, that we can at all depend on the result.

There crops up every now and then a dispute as to the extent to which medical men are responsible for the prevalence of intemperance. That there is a widely-spread conviction abroad that medical men are largely responsible for it, is unquestionable. On the other hand the charge is no less vehemently repudiated. It is impossible to exactly determine this point. It would, perhaps, be possible to collect numerous instances in which the patient has exceeded the prescribed quantity of alcoholic beverage, or has continued to take it long after the ailment has ceased for which it was prescribed; or has consumed the exact quantity, say of wine, in addition to other things which the physician did not know were being taken, and so on: but, most probably, for every one authentic case of this sort one could be adduced in which an excessive quantity of spirituous liquor has been ordered by the doctor, or an indefinite prescription of "plenty of wine," or "some" beer or spirit, has been given. But above and beyond all this the medical profession may fairly be charged with having contributed to the general alcoholisation of the people by the character for strengthening qualities which they have conferred on beer, wine, and spirits, by their continual prescription for this very purpose. The popular idea of their value is simply the echo of the whispers of millions of consultations; and there is no fact more plain and certain, though scarcely

one more ignored, that, if a whole population be taught by its seniors, its scientific and literary men, in fact, by those who "ought to know," that alcohol is daily necessary for daily work and health, is generally strengthening, and to be taken in extra quantity for special purposes and on festive occasions, there will be created in that population an amount of intoxication such as we know too well. In this way, at least, the medical profession, with but few exceptions, has much to answer for. They have aided and encouraged "the fashion" of drinking, which cannot be said of the fashion of using "stays" or "chimney-pot hats," or any of the other follies which medical men have denounced. But since the past is irrevocable how much more needful is it that the profession, as such, should set its face against the unnecessary fashion and use out of which the acknowledged abuse has somehow or other sprung!

This being the reflection which naturally occurred to us on reading Dr. A. Carpenter's defence of the profession, we were not a little disappointed to read almost directly after, "The universal employment of this particular class of liquids (alcoholic drinks) indicates a natural requirement of some kind." This, however, must be an oversight on his part, because a little further on he himself objects to an argument of the same kind as unsound. It is well to note that, in the first place, it is untrue, since millions have lived and died without the slightest desire for alcohol. If the ground be then shifted, as it often is, to the assertion that while some nations take alcohol others take opium, tobacco, Indian hemp, coffee or tea, still no "natural requirement" is thereby proved; for these substances affect the nervous system in various and even different ways. Thus there is reason to believe that while alcohol, opium, and haschish diminish the controlling powers of the mind, each in its own fashion, coffee, and probably tea, increase the will-power, and to a certain extent act as antidotes to the former drugs. In any case it is easy to perceive that these nerve-intoxicants are resorted to for the agreeable sensations which result without any proof being thereby afforded that they are even beneficial, much less necessary.

We have always asserted that the true test of the value of alcohol-drinking, and of total abstinence therefrom, is in *experience*. But this must be a *true* experience. There is the experience of the individual; the experience of the nation; the experience of the race. These three are distinct, and yet inseparable. It is perfectly well known that the experience of an individual in economical matters, in sanitary matters, and in many others that could be named, is not sufficient to enable us to form a correct induction for the nation at large, much less for the whole race of man. Various disturbing causes may be present

which lead to a result in a particular instance contradicting the general experience of mankind. These disturbing causes may be, and often are, occult. Being occult and unknown, they fail to impress the thoughtless and foolhardy, who presume on the chance of escape. It is in this way that we find advocates for cesspools, protection of trade, and other false practices and principles. In more doubtful cases we may be quite unable to decide by merely regarding the individual; various experiences may seem quite contradictory, because we can seldom know all the factors which determine the final result. It is thus that so many delude themselves into the belief that moderate drinking is not injurious. In the first place, no experience of a living person can justly determine this point; we must at least know the end and whole of his life before we can begin to estimate the influence of his moderate drinking. In the second place, even if an exceedingly small quantity has been partaken of throughout a long life, and it is impossible to lay one's finger upon any personal ill result—mental, moral, or physical—it by no means follows that no such evil, of even a considerable degree, has thereby been occasioned. No human being can possibly know a fellow-creature so as to pronounce infallibly upon him; nay more, no human being can possibly judge himself correctly in this respect. It is, therefore, utterly impossible to arrive at any just conclusion as regards the effect of moderate drinking on the individual by simply regarding each case by itself. But more than that, the individual does not live to himself alone; his alcohol-drinking is not a purely self-regarding act; even if not responsible to his fellow-men for it, and so, becoming amenable to their interference, he is responsible to his Maker for his influence upon others. Who can venture to pronounce infallibly upon the extent of anyone's influence in this respect?

It is impossible, then, to determine the effect of extreme moderation on the individual. We may freely concede to Dr. A. Carpenter, and others, that an amount may be taken so small and so diluted that its individual action will defy detection. If that is so many seem to think that we have conceded the whole case. Not so. We have to do, not with what, theoretically, *might* be, but with what *is*. We claim to be the most practical of philosophers; so far from being enthusiasts and fanatics we are cold-blooded and mathematically-minded. We leave visionaries to dream of a Utopia of universal moderation, and we say, If you wish to determine the value of alcohol-drinking you must take the masses, you must enlarge the sphere of your examination, and consider whole nations, the human race. That which has been shall be; and if you find everywhere and always that where alcoholic liquids are valued as a diet, or as a beverage,

there various evils, which are so well known that we need not here enumerate them, result in varied proportion to the population, then we assert that the only way to prevent these evils is to remove the cause, in this case to stop the practice of moderate-drinking. We will not stay to argue, however, that this is the *only* way. Possibly the human race may so improve in course of time that moderation may be universal, or all but universal. But what guarantee have we for that? And how long is it likely to take? All we say is that the removal of the factor *alcohol* is the only one completely, and at the present time, in the power of the individuals of the human race, and the greatest hindrance to the attainment of the hoped-for perfection. Till mankind has attained the perfection necessary for complete self-restraint it were surely wiser to put alcohol away.*

The experience of large numbers proves that moderate-drinking has the effect of shortening the duration of life. Every individual, therefore, who is one of that number must, perforce, be exposed to a detrimental influence from which nothing can certainly deliver him save the ceasing to belong to the class of moderate drinkers. Yet in no single case probably could the actual effect be demonstrated.

Dr. A. Carpenter, in dealing with the question of small doses, objects to the argument that because large doses of alcohol are confessedly injurious, therefore small ones must be so too. His argument is that calcium, sodium, and potassium, and their salts, are poisons, but yet necessary for life and health. It is no doubt true that they are so when taken in quantities sufficient to produce great effects; but even if any immediate physiological effect is produced day after day their action will be allowed to be detrimental. The only reason why no harm ensues is because they are not taken in doses sufficient to produce their specific physiological action. At the same time they are elements of the body, and are required for the formation and metamorphosis of tissue. How, then, can alcohol be compared with them? No alcohol is used in the nutrition of any part of the body, and therefore any quantity less than that required to produce some physiological effect cannot be discussed in that way. When a sufficient amount has been taken to produce obvious alterations in the body those changes are palpably injurious in their tendency; and these being repeatedly produced day after day, chronic alterations further result. The mere fact that toleration of alcohol can, to a certain extent, occur, is sufficient to prove that

* It has been suggested that the argument, that this perfection has been attained, will probably be that which Satan will employ, after his bondage of a thousand years, to induce mankind to use alcohol again: by no better means could he once more deceive the nations.

these small physiological doses alter the system, and, if continued, maintain the abnormal condition; this, however, soon disappears after the alcohol is abandoned, and the old sensitiveness returns to a great extent, after allowing for the increase in age meantime, which somewhat diminishes the sensitiveness, and the length of time and extent to which the nervous system has been altered.

But while phosphorus is contained in the brain, it is not as *free* phosphorus, but in combination; and Dr. A. Carpenter would admit that the smallest quantity of free phosphorus, at all events if sufficient to produce its physiological action, if taken habitually, would probably be injurious.

The question of the value of alcohol as food is still a *quæstio vexata*. Dr. A. Carpenter is disposed to think that alcohol has been frequently known to maintain life for long periods. On the other hand Dr. W. O. Markham, in a letter to the *British Medical Journal*, has called this in question. It is forgotten how long life can be prolonged on water only, especially when the temperature is artificially maintained and all exertion is avoided. It is generally under such circumstances that these cases occur. Moreover, patients and nurses are very apt to overlook, or make no account of, the very small quantities, it may be, of other things which are taken as well, considering, as they do, that the wine is the principal nourishment. The sugar and other constituents of wine are not to be forgotten, while it is not unlikely that under certain circumstances there is an increased power of appropriating the nitrogen of the air to an extent sufficient to prolong life on a purely hydrocarbonaceous diet. Considering that simple hydrocarbons cannot possibly form nitrogenous tissue it is difficult to believe that alcohol, however combustible, could accomplish all that is attributed to it.

We believe that Dr. A. Carpenter dwells too much on the secondary physical effects of alcohol, and underrates its immediate direct effect on the nervous system. We cannot thoroughly endorse his warnings against undiluted beer and wines, because there is a fallacy therein. He puts the lowest quantity of alcohol capable of acting injuriously on the blood as 1 in 500. Now it is estimated that there are at least ten pints of blood in an adult; if a whole pint of ale, containing 10 per cent. of alcohol, were poured into it, it is clear that a much greater proportion than 1 to 500 would be introduced. But, in fact, the ale is only absorbed by degrees, and as fast almost as the alcohol is absorbed, it is removed from the circulation. While there is, therefore, abundant reason to avoid much alcohol and concentrated mixtures thereof, the argument must not be pressed too far. At the same time the greater effect of concentration is seen in the greater degree

to which the liver is affected by alcohol, since this viscus receives the alcohol mixed with only a portion of the blood, that of the portal vein.

As a mere matter of fuel there can be no important difference even between physiologists of extreme views on either side. For the quantity which falls short of having a special action on the nervous system is very small, scarcely worth contention about, and all quite agree that the sugar which supplied the alcohol must necessarily furnish a greater amount of force or heat at far less cost.

It is really the value and significance of the physiological action of doses of alcohol, *qua* alcohol, just large enough to produce distinct effects, on which the battle turns. It is quite certain that large doses of alcohol reduce the temperature of the body, but it appears that when a moderate dose is taken there is for a short time a small elevation of temperature. How is this produced? The advocates of alcohol point to this elevation as evidence that the alcohol is consumed, and supplies warmth to the body. But there is a fatal objection to this hypothesis, namely, that in a fairly-nourished body, at a normal temperature, the ingestion of a small quantity of highly carbonaceous food, such as oil or sugar, has no effect in raising the temperature. In fact, such is the power of heat-regulation possessed by the system, that simple ingestion of fuel does not increase the body-heat in the slightest degree; the fuel must be consumed in order to produce heat, and if the body is already hot enough, and there is no extra work done, the excess of fuel remains unconsumed. If oil, then, does not raise the temperature, neither does alcohol by any process of combustion. We are therefore driven to the conclusion that this slight elevation is due to a disturbance of the machinery by which the heat is regulated and distributed. Herein does alcohol differ from all kinds of food; it must be placed in a class by itself, or, rather, along with other narcotics. The higher temperature is clearly due to the presence of an increased amount of warm blood from the interior at the surface of the body, where it soon undergoes a rapid process of cooling, so as to reduce the general temperature below the normal.

It is this relaxing effect of alcohol on the capillaries which is the cause of that exaltation of nerve-action which has led so many to regard alcohol as a special stimulant of the nervous system. There is no evidence that any increased power is communicated by alcohol, nor yet set free by it, except as the consequence of a larger amount of blood being sent to the nervous centres. The very first result of the specific action of alcohol upon nerve-tissue is one of interference with its action, and the earliest centres to suffer this are the highest and most delicate by

which control is exercised over the ideational, emotional, and sensori-motor centres; with increase of the amount of alcohol this paralysing action extends gradually from above downwards. The frequent recurrence of this condition tends to perpetuate itself as a permanent diminution of voluntary power and self-control, degrading the individual to a lower level. In such cases Society has a right to do what is necessary for its own protection; but, when it is a choice between locking up the drink and locking up the drunkard, we fail to see how any Christian man can advocate the latter course, save as a mere temporary expedient, while he endeavours with all his heart and soul to prohibit the sale of the drink, and set the prisoner free.

There cannot, with all the evidence available, be two rational opinions as to the possibility of suddenly and safely ceasing to drink alcoholic liquors. We quite agree with Dr. A. Carpenter in his advice that the sooner it is left off the better. We can assure him, however, that the principle is so sound that he need not fear to apply it even in the case of those old people whom he would except. We have never known any harm to result even to the most elderly as a consequence of relinquishing alcohol, while we have known several to have testified to receiving benefit thereby. We regret to see that in certain states of comparative health he is prepared to recommend alcohol as beneficial, because there is no evidence that permanent good will result from any habitual use of alcohol, nor that these cases are exempted from the operation of that law which plainly declares that moderate-drinking shortens life in the end.

We quite agree with him, however, that "a very large number of persons may die from disease induced by a too-frequent application to alcoholic drinks without the remotest suspicions in the minds of themselves or their friends that such is the case." It would be no exaggeration to say that at least one-fifth of the annual number of deaths are accelerated in this way or caused directly by the use of alcohol. Dr. A. Carpenter's concluding remarks, therefore, deserve the attentive consideration of every practitioner. He says—"Alcohol in any of its forms may be a good medicine, but it is a bad diet, and its action as a poison is visible among all ranks of society. It is our duty, as medical men, to advise our patients accordingly." There can be no doubt that this is true. Alcohol, chloral, ether, chlorodyne, opium, and all narcotic drugs which tend to paralyse the will, are not safe in the hands of the public, or fit for self-administration. Every form of these drugs ought therefore to be interdicted, and their only location should be the shelves of the apothecary from which they have escaped.



ALCOHOL IN COLD CLIMATES.

By JOHN RAE, M.D., LL.D., &c.

HALF a century ago, a very general opinion prevailed that "a drop of drink," in the form of whisky, brandy, gin, or rum, was a good, if not an essential, warming-power in cold weather, and the weary and shivering traveller *refreshed* (?) himself with one or other of these drinks, whenever he had a chance, when on a journey; the effect being, as is now pretty well known, that such continuous dram-drinking was very prejudicial. The old idea has still root and vitality in some minds, as has been very recently brought prominently to view in discussing the peculiarities of the recent Arctic Expedition.

Agreeing as I do with the opinion that there are *possibly* cases where treatment by alcohol may be beneficial, because there are exceptions to every rule; an experience of more than twenty years,—sometimes under exceptionally trying circumstances—has proved to me that its daily use, even in small quantities, is prejudicial in cold climates.

In 1833-4 one of the Hudson's Bay ships, of which I was surgeon, was forced to winter at one of the islands in Hudson's Bay. When we arrived at the island the ground was covered a foot deep with snow. We were badly supplied with provisions for wintering, having little or no vegetable food; the consequence was that towards spring seventeen, or more than half the people, were attacked with scurvy. I found that all those who were free drinkers—not, however, by any means to excess—had the disease much worse than others. It was then the custom to give rations of grog in the merchant service, but our stock of rum had been expended before the scurvy made its appearance.

Among the people were eight or nine passengers, "homeward bound," who had been in the Hudson's Bay Company's service. These men for years had not taken any rations of spirits, and all of them, with one exception—an old man—escaped scurvy.

The only apparent reason for their exemption from this terrible disease—of which two died—was, that these old Hudson's Bay men had taken no daily rations of grog, for they had no advantage as to diet over the sailors, as their food at Moose Factory, *before* they came aboard ship, was chiefly salt geese and bread, with little, if any, vegetables.

I may add, as a fact interesting to medical men, that, fortunately, early in spring a piece of sloping ground exposed to the mid-day sun became cleared of snow, and large quantities of cranberries were brought to view; by a free use of which, and, later in the season, aided by the young sprouts of the wild pea,

all the patients then alive (some of them in a very bad state) recovered, and were fit for duty by the time the ice broke up and cleared away.

During four winters passed within the Arctic circle—in two of which we had no fire at which to warm ourselves—the temperature out of doors being frequently 50° below zero, and inside the house sometimes 38° below the freezing point, no spirits, beer, or wine of any kind was used, nor did we seem to want it, as we were all in perfect health.

I may add that none of us were total abstainers on principle, and it was optional for me to take as much rum with me as I pleased; but, knowing by experience its injurious effects, no alcohol in any form was carried beyond a small supply of brandy as medicine.

Usually, when making long snowshoe journeys through the Indian territory, I carried a flask of brandy in my canteen, and sometimes, as an experiment, offered my men—whom I knew to be fond of grog—a glass when halting about mid-day. They invariably refused, knowing the bad effect it would have upon them whilst their day's work was unfinished, saying, "Would you please to give it us at bedtime?"

I noticed, however, when this was done, that the men who took the grog were more thirsty and less fit for work in the early part of next day than those who had used only the usual evening drink—tea.

In nearly all the cases of death caused by exposure to cold that I have known or heard of, it was found, on inquiry, that the persons so dying had taken some alcoholic drinks—not necessarily in large quantity—before going out into a low temperature, the effects produced being languor, drowsiness, inability or disinclination to walk, imperfect circulation, stupor, and, finally, death. So well is this bad effect known by people in the far north-west of America and in Canada, that they will seldom take even a single glass of spirits when about to be exposed to extreme cold.

In my second winter on the Hudson's Bay coast I followed the very usual custom in the moors of Scotland of carrying a small flask of whisky when on shooting excursions. One day, being rather fatigued by a very long walk through deep snow, I took a small pull from the flask—certainly not more than a *very* small wine glassful; the effect was such that I thought I should never have been able to reach the house, although only a few miles' distance. The lesson was one I have never forgotten.

Many years afterwards I formed one of a party of some ten persons at a deer drive in the Highlands of Scotland. Each sportsman was furnished with a flask of whisky, and as my station was at some distance from the others, a gillie was sent with me

to show the way to it, and to the rendezvous after the drive was over. It was a wretched day, with constant showers of snow and sleet, which a strong wind plastered on our clothes, which were not (at least mine were not) waterproof. My gillie—a fine stout young fellow—shook and shivered as if in an ague fit, and I felt obliged to give him some whisky, and to continue to do so, until my flask was empty, not taking a drop myself; the result was that, without a sign or symptom of intoxication, my companion was scarcely able to move when the drive was over. On the party reuniting after the drive, every one looked *blue*, and felt very cold, *except myself*; and every one except myself had drank whisky to a greater or less extent, and “asked for more;” but every flask was by this time empty. Now, among this party were young gentlemen of splendid physique, with admirable circulation, apparently better fitted to endure cold than I was; there were hardy gillies, whose whole life had been spent among these mountains, and of course accustomed to such exposure as we had experienced, yet all suffered severely, whilst I did not feel even uncomfortable. The only cause I can think of, was the whisky which they took, and I did not.

For many years past no spirits or wine has been admitted into a portion of the Hudson's Bay Company's territory—many times larger than Great Britain; the officers of the Company having readily agreed to give up their annual allowance of these, so that the Indians might not have it to say, that we took for ourselves what we did not give to them. For the same reason, beer was not brewed at stations where barley was grown.

In my experience of a pretty long and varied life, I never knew men go through a long continuance of arduous daily labour of many hours' duration, with the same ease and cheerfulness as our Hudson's Bay *voyageurs*, who were of necessity total abstainers. The same may be said of the “shanty” men in Canada, who never take spirits or beer throughout the winter, when in the woods. Few men work harder than these.

In the Admiralty inquiry regarding the causes of scurvy in the recent Arctic Expedition, the evidence of all or nearly all the witnesses (I mean those who had formed part of the crews of the ships) examined, was in favour of a glass of spirits being given at bedtime to the men when sledge travelling, as it “caused a glow of heat, which enabled them to go to sleep.” This may have been so, yet I scarcely think it was *any* or a *fair* proof of the advantages of alcohol.

The men had been supplied for five months before starting on the sledge journeys with a glass of grog about mid-day and another before going to bed when on board ship, and naturally they would feel the want of this sleeping-draught when going to rest

in their cold tents; but this by no means proves that the men would *not* have been better *without* using spirits at all, either on board ship or on the spring journeys.*

I and my followers, when in the Arctic, slept most soundly with a covering of only a single blanket, and without any "night-cap" in the form of strong drink. It may be said that we were not exposed to such great cold, which is true, as we slept in snow huts, which are much better shelters than the tents used on the recent Expedition; but, according to the experience of many persons, the greater the cold the more injurious is the use of alcohol.

Perhaps it may not be thought beyond the scope of this paper to notice what I believe to be the prejudicial custom in our navy of giving a strong glass of grog daily at or about mid-day, educating, as it were, the fine young fellows who enter this most popular service into a most injurious habit, which as long as men are on board ship does perhaps no great amount of harm, but which, after a few years' service, has become, "by habit and wont," *almost* a necessity. When men obtain leave of absence, or get their discharge, they come on shore, and their first craving, when noon arrives, is for their accustomed stimulant, which they satisfy at the nearest grog-shop, by drinking, as likely as not, some villainous compound specially prepared to increase thirst; is it surprising then if the dose is not unfrequently repeated over and over again, with the well-known results?

My only surprise is that the seamen of the present day in our navy are so sober as we find them to be.

Perhaps the following plan—which would cost no money and give little trouble—might be tried of testing the advantages, or the reverse, of total abstinence in our navy. It is well known that in our merchant service, whether the ships are bound to the north or south, east or west, no regular rations of grog are now served out, and the men are said to do their work all the better for the change.

There are now some hundreds of total abstainers in Her Majesty's navy; why not man one or more ships with these, giving them an equivalent of some kind for the ration of grog they have given up? There cannot be a doubt but excellent officers would readily be found to command ships so manned, for we know of at least two of our most distinguished admirals who have publicly expressed their opinion as to the injurious effects of even moderate drinking.

* I find, in the Blue-book of the Report of the Committee on Scurvy, the scale of *winter rations* mentions the daily allowance of spirits per man as *half a gill*. Dr. Colan, at folio 64, Question 1,808, says, "The allowance being *half a gill of rum twice a day*, except on beer days"!

It is well known that some men of great distinction and experience, both in and out of the Service are opposed to such a plan as I suggest. These gentlemen say that it is better to have a very few total abstainers distributed in each ship, as a good example to the crew, than to assemble them altogether in separate ships.

With every respect for the opinion of these great authorities, I cannot agree with them. They seem to lose sight of the difficulty and temptation to which the few total abstainers must be subjected daily, when laughed and jeered at by many if not all their hundreds of comrades who drink their allowance. They forget what the difficulties are, or must be, to the man who wishes, perhaps, to cure himself of an infirmity which he feels growing upon and gaining power over him. What chance has he of curing himself as long as temptation is daily placed before him in the most enticing of forms, namely, in the companionship of his messmates? Surely such is not the best way to obtain converts to temperance, unless, indeed, the old adage "avoid temptation" has grown to be untrue and of none effect.

My plan has the following advantages. Men who are already abstainers would in a great measure be removed from temptation, and those who wished to become so, would have a fair opportunity of putting their good resolutions to the proof.

There would also be an opportunity of testing, in all climates and under all circumstances, the sanitary condition and capacity for work of the temperance crews, and comparing them with those who drank their allowance of grog—which cannot be done under the present system.

These objects may, perhaps, seem of sufficient importance to induce the present very energetic First Lord of the Admiralty—as soon as the cloud in the East disappears—to try the experiment I have so imperfectly suggested, which, as has already been said, would cost little or nothing, and perhaps help in a small degree to get rid of an evil.

For obvious reasons I have confined my remarks almost wholly to my own experience of the effects of alcoholic stimulants in cold climates, and have tried honestly to give an unbiassed and unprejudiced opinion.

That the use of alcohol, even in moderation, in a cold climate is generally if not universally prejudicial, I cannot doubt; that it is so in a majority of cases in England and elsewhere I fully believe, although exceptional cases are frequently mentioned in which its discontinuance has proved injurious to health. But exceptions are to be met with in every article of diet or medicine one can name.

I remember crossing the Atlantic with a very distinguished Arctic explorer and naturalist—a medical man—who accidentally

broke a bottle of quicksilver. After we had gathered up the contents, my friend said, "Rae, I shall be salivated;" and sure enough next morning he was very much so, by the brief contact of his hands with the mercury; whilst on me, who had come fully as much in contact with it, not the slightest effect was produced.

It may perhaps be supposed that the temperatures of 32° , 37° , 45° , 32° , 34° , below zero, experienced by the sledging parties of the late Arctic Expedition on their coldest days, the 5th, 6th, 7th, 8th and 9th of April, 1876, were the lowest in which men had ever encamped out with tents for shelter, and that therefore a glass of grog was requisite to put the men to sleep.

In 1848-9, I and a party of Hudson's Bay men were out in the barren lands to the north of Great Bear Lake, hunting deer, and during six days the temperature varied from 38° to 60° below zero. We had no tent, and a smaller amount of bedding than the Arctic explorers had; we had occasionally fresh breezes, whilst they had constant calms (see Journal), yet we slept well without using any alcohol. In fact, one of my men was absent a couple of nights, without blanket or covering of any kind except his coat. On one of these nights the temperature was 50° below zero, yet the man returned to camp perfectly well and uninjured. Had he taken even a single glass of strong grog, my belief is he would never have been seen alive again.



NON-ALCOHOLIC TREATMENT OF POST-PARTUM HÆMORRHAGE.*

By SURGEON-MAJOR G. K. POOLE. M.D.

THE treatment of disease without stimulants is at the present moment a subject that interests all of us, especially in our position as guardians of the public health, and as being called upon so constantly to give our opinion as to the use and necessity of stimulants as an article of diet in daily life. Hoping, therefore, that the subject, in its general aspect, may at some future time be brought before this meeting, I have ventured somewhat boldly to take my stand as an advocate of the non-alcoholic treatment of hæmorrhages generally, and of post-partum hæmorrhages in particular. In most text-books on midwifery, the use of stimulants in post-partum hæmorrhage is recommended; some

* A Paper read before the South-Eastern Branch of the British Medical Association, March 14, 1878.

authors even going so far as to say that, if syncope is evident, brandy should be poured down the patient's throat with an unsparing hand; and the majority of general practitioners, following, perhaps, their early teaching, and a practice that custom has generally sanctioned, without very much reflection, resort to the use of stimulants not only in post-partum hæmorrhages when death is imminent, but give brandy when faintness *threatens* rather than when it continues. Some even give a glass of hot grog in the midst, or at the end of an ordinary labour.

Dr. Blundell, a most intelligent straightforward common-sense lecturer and accoucheur, advocating as he does the use of a cordial of a table-spoonful of brandy in a wineglassful of hot water, as soon as the child is born and the bandage is applied, says, "Faintness from small bleedings is unattended with danger, is highly conducive to their cessation, and in general, therefore, ought not to be artificially relieved."

Denman says, "Cordials or stimulants should not be given to those who are faint, till, by the duration of the faintness, we conclude there has been sufficient time to produce those effects which would prevent a renewal of hæmorrhage, or lessen its danger, if it should return.

Leishman, in his "System of Midwifery," says, "The *tendency to syncope* must be combated by free stimulation with brandy." "Who shall decide when doctors disagree?" Now I contend, gentlemen, that it is the privilege of each one of us to think for himself; and with regard to hæmorrhages in general, an Indian experience of some years—during which I have seen some large hæmorrhages, and particularly in connection with the removal of large scrotal tumours (before experience had taught that such bleeding could be averted)—has led me to ask why most of these patients did not succumb. All my scrotal cases occurred among the natives, who are as a rule total abstainers; great bleeding was the result of the operation, and this was invariably followed by faintness or fainting—no stimulants were given, for fear of native prejudice, but, the result of this fainting was a cessation of hæmorrhage, and I came to look upon fainting as rather a good omen, because it did what I could not do, viz., plug up the mouths of the innumerable blood-vessels that I had divided. The effect of brandy would have been to have stimulated the heart's action to force out these plugs and prevent their becoming permanently effective. Why, then, I ask, should not the same principle be applied to uterine hæmorrhage? The conditions, I take it, are similar; nay, the balance in favour of the cessation of hæmorrhage is with the uterus, an organ disposed, *per se*, to contract and so close up the source of bleeding.

Without, however, taking up time by entering into a disserta-

tion on the subject, my object being to bring the matter forward with a view to discussion, let me relate two cases of uterine hæmorrhage that have recently occurred in my practice.. Both patients strongly objected to the use of stimulants; were, I believe, total abstainers. The first, a large woman, mother of six children, aged forty, with flabby cardiac action, miscarried at the fourth month; the placenta was retained, and flooding went on until she fainted and rallied, this alternation going on for at least three hours; the hæmorrhage ceased on my removing the placenta, though, on my arrival at the house, I had found her nearly dead. Full doses of ergot were given, and nothing but strong beef-tea and Liebig's extract carnis; the fainting continued for some hours, when she gradually recovered, and in a few days was convalescent.

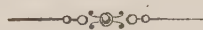
The second case was that of a multipara, breech presentation, with hydrocephalus. With the kind assistance of a medical friend, after the application of the forceps, we dragged into the world a dead child with an enormous hydrocephalic deformity and spina bifida; a tremendous rush of blood followed the placenta, and the flow continued until the woman became faint, and her pulse imperceptible; perchloride of iron was injected, and the bleeding apparently ceased, but returned before I had got home, when a message was sent to me to say the woman was dying, and, to all appearance, she was so. I could feel no pulse; she was throwing herself, unconsciously, from side to side, her skin was clammy and bedewed with sweat. I found a large clot blocking up the vagina, by the sides of which every now and then, as she slightly rallied, blood oozed. Some brandy had been offered by the nurse, but refused. Removal of the clots from vagina and uterus, and the injection of four ounces of perchloride of iron and water, was at once done, and the woman gently fed with Liebig's extract of meat. No brandy or spirits was given. She continued faint, but without hæmorrhage, for some hours, but rallied marvellously, and in a few days was convalescent. There was no reaction, no secondary fever, no gastric irritation, sleeplessness, or diarrhœa, nothing but steady progress towards recovery.

It may fairly be asked why I did not give brandy. My answer is, because I did not believe in it, because I dreaded its after-effects, and because I did not wish to run counter to the feelings of my patient and her friends. And I still feel convinced that its use in such cases as those I have narrated, would have retarded convalescence, given origin to symptoms such as vomiting, diarrhœa, excessive reaction ending in prostration (the effects, as far as my observation goes, of overstimulation); and I am sure that, after large and dangerous floodings, women treated by stimulants often in the course of a few days or weeks are the sub-

jects of gastric irritation, flagging of the heart, secondary fever, and prostration.

Our object in treating post-partum hæmorrhage is—1st, to restrain the flow; 2ndly, to produce uterine action, and keep the patient alive by suitable nourishment; and I contend that stimulants accomplish neither of these objects—the heart flags, it is true, from excessive loss, and in this flagging condition coagula form in the bleeding vessels and plug them; stimulate, and these plugs are forced out, a fresh outpour occurs, *still* without uterine action, for *alcohol does not act upon the uterus*, nor does it afford the vital nourishment that we need, or that a cup of soup or non-stimulating food does. I am well aware that this opens up a large unexplored field of observation, as to whether alcohol is a food or not. To my mind it is not; *there may be cases* in which it is useful as a *medicine*, but not as a food. We have not to look far to verify this assertion, and see the ill-nourished child of a drunken mother, whose chief *food* (?) consists of a “drop of gin”; or the stunted growth of the dog fancier’s bull terrier, who has his daily allowance of gin to restrain his growth and keep him small.

UPPER NORWOOD, *March*, 1878.



ALCOHOL USELESS IN SURGERY.*

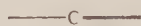
MANY well-known physicians have borne testimony to the very doubtful efficacy of intoxicating liquors in the treatment of disease, but comparatively few surgeons have as yet spoken, in deprecatory terms, of the administration of alcohol in the after treatment of surgical operations. It is with no ordinary gratification then that we hail the decided and unsparing exposure, by Dr. Bantock, of the hollowness of the claim set up on behalf of this dangerous remedial agent as of value in the practice of surgery. In a thoughtful and convincing work on a troublesome and responsible surgical operation, he says (p. 39) that the question of the use of alcoholic stimulants is a very important one, and on it he holds very decided opinions. He believes all cases of operation are better without them, and he never administers them. He has seen them given with the result, as he believes, of increasing the suppuration, and he has never seen them do good. Alcoholism

* “On the Treatment of Rupture of the Female Perineum, Immediate and Remote.” By George Granville Bantock, M.D., F.R.C.S.E. London: J. & A. Churchill.

in no degree favours the healing process. After a serious operation the food should be light and unstimulating. This opinion is the result of a great number of operations, embracing the most formidable, and his extended experience has convincingly proved the truth of the proposition. We hasten to lay this remarkable confirmation of the soundness of the principle enunciated by the earliest pioneers of our great movement, that alcohol is as valueless in ill-health as it is injurious in good health. Dr. Bantock is a man of mark in the medical profession; he is surgeon to the Samaritan Free Hospital; he is widely esteemed as a painstaking and conscientious operator, and such a withering denunciation of the utter worthlessness of alcohol as an aid to recovery after perilous operations, coming from such a source, is an auspicious omen of no mean portent.



Miscellaneous Communications.



THE HUNTERIAN SOCIETY—ALCOHOL IN HEALTH AND DISEASE.

A PAPER by Dr. B. W. Richardson on "Alcohol in Health and Disease," was debated at a meeting of the Hunterian Society, held in the London Institution, on Wednesday evening, April 24. Dr. Thomas Boor Crosby presided. The following is the *Lancet's*

ABSTRACT OF THE PAPER.

Dr. Richardson, in the opening passages of his lecture, traced out the physiological action of the different representatives of the alcohol family, and showed that the action of each was the same, subject only to modifications due to the relative specific weight, vapour-density, boiling-point, and solubility of each. He next drew a comparison between the action of the alcohols and ethylic ether when both are taken into the body in the same manner, and again indicated that the phenomena are the same, modified only in duration of action by the difference of vapour-density and other physical qualities. To this rule there was one exception—namely, that when the heavier alcohols, the

butylic and amyllic, are made to act on the body so as to produce a distinct effect, they cause tremor of the muscles, a condition resembling delirium tremens, which condition seems to be peculiar to their action, and to separate them from the methylic and ethylic alcohols and from either in respect to physiological action. The analogy of action between the alcohols gives to them the same position in respect to their influence on life. If one of them was a food, they all were; and the heavier ones ought to be the most substantial. In fact, they are none of them foods, but agents which powerfully affect the body by modifying natural function and setting up a condition of life distinct from the natural.

The author next proceeded to point out the phenomena induced by alcohol, dividing these into four stages; the first stage, in which the excitement, vascular and nervous, is prominent; the second, in which there is some slight failure of power, mus-

cular, nervous, and mental; the third, in which there is great failure of these powers with reduction of animal temperature; and the fourth, in which there is complete narcosis, with great reduction of temperature. Turning now to the use of alcohol in health, he asked, In which of these stages of action does the use of the agent prove of value? It could only be thought of as useful in the first stage, and why then? What was there in the condition of a person so influenced that was better than the natural condition? What object was attained by the excitement and the corresponding after-depression?

In the next part of his paper Dr. Richardson explained that as there are four acute individual stages of alcoholic action, so amongst those who habitually indulge in alcohol there are four chronic collective stages. There are classes of people, that is to say, who present from day to day one or other of those stages until the change becomes a set part of their unnatural lives. It would be folly to suppose that anyone would attempt to defend the condition of the persons who pass their lives under the shadows of the second, third, or fourth stages of alcohol. But what of those who are so firmly and timely moderate that they never pass into a state of change beyond the first stage? They may be within a shadow of health, but they are not healthy, and the contrast between them and the trained abstainer is in the most striking degree in favour of the latter.

The condition of health of those who abstain was next examined. Some abstainers were so from birth, and some were abstainers of many years' standing. Both of these were representatives of the best class. Others were abstainers of short duration, and were less favourably placed in comparison. Others, still probationers, were not by fixed habit abstainers, and these were much less favourably placed; they furnish those who, being anxious to abstain, are too nervous to carry out their own intentions, and who seek, not unfrequently, the protection of the pro-

fessors of medicine, in order that they may return to the stimulant on the doctor's recommendation. These persons do great harm to the cause of abstinence; they attribute symptoms which were common to them when they partook of wine, to abstinence; and are ever unsettled and uncertain.

In considering the position of alcohol in relation to disease, Dr. Richardson said it had now been shown, on a sufficiently large scale to admit of a fair argument, that disease, using the term in its widest sense, can be treated without the use of alcohol; but he did not wish to consider the matter in this exclusive way. Alcohol, in the character of a remedy, belongs to him as a physician; he has just as much right to it as to opium or chloral, if he knows how to use it properly—if, that is to say, its true physiological action and its true therapeutical application be understood. When, however, he speaks of alcohol in this sense, he speaks of it as a distinctive thing—not as of wines, or beers, or stouts, or spirits, which may hold any degree of alcohol, and a number of other substances more or less useful or more or less hurtful; but as a thing which can be understood, and which is the chief ingredient for good or for evil in all our stimulating drinks. In this mode of inquiry he has for three years past considered the value of alcohol in disease. He has never in that time prescribed the smallest quantity of wine or any other drink holding alcohol as its base; but when he has wanted alcohol as a remedy, or has thought he has wanted it, he has prescribed it, as he would any other remedial agent. Used in this manner alcohol comes in the clearest way into its true therapeutical position. It is an antispasmodic, to classify it under an old term; it is a paralysing agent of the organic muscular fibre, and, carried to an excess, carried beyond the first stage of its action, it is a reducer of animal temperature.

In administering alcohol as a medicine the four stages or degrees of its action must always be borne in mind;

but it is not often we should ever have to push its use to the extremest degree. It is true that if we had no better general anæsthetic we might be inclined to induce the third or fourth degree of narcotism by means of it for making operations painless. It is true that if we had no better relaxant of muscular fibre we might be led to administer it to the third or fourth degree in order to reduce a dislocation; or in instances of spasm, such as asthma, colic, tetanus, or angina pectoris, we might, in the absence of a more active remedy, resort to it in order to produce relaxation. Fortunately we have at command for all these purposes chloroform, ether, nitrite of amyl, and other similar active remedies. To these alcohol may serve now and then as an adjuvant; it can, when they are in use, play no better part, and this is the experience of it in those cases where it is administered in its purest form, and under the most careful attention to the effect it produces.

After the author first made the direct observation that alcohol reduces the animal temperature, it occurred to him naturally, and it has occurred to others, that this agent might be employed as a febrifuge, for the purpose of reducing febrile heat. He gave to it its full credit in this application of it, and had tried its value with every fairness. The result he arrived at in this respect is that, carried to the degree of inducing a fully-developed second stage of its action, alcohol does reduce febrile heat, and that carried into the third stage, it reduces that heat to a marked extent; but between the production of that effect and the period of first administration the excitement is so intense, the motion of the heart is so accelerated, the delirium induced is so troublesome, the disorder to the digestion so definitive, there is an actual risk in the use; while the after-effects are of such extreme character in the way of depression that he for one would far rather be left to no treatment at all for pyrexia than accept alcohol as the remedy, however skillfully it might be administered.

By many it is held that in some instances alcohol quickens the nutritive processes. When its position is correctly understood, there is an argument for this hypothesis. By its paralysing influence on the vessels of the minute circulation, alcohol quickens the course of the blood, and brings more blood into the peripheral surfaces. Some benefit may result from this use. A few years ago, when the author was experimenting with the vapour of nitrite of amyl, some rabbits suffering from an extensive squamous disease, like lepra, were brought to him as pathological curiosities. He placed them one by one in a hutch, the atmosphere of which was kept charged with the vapour of the nitrite. As the animals came under the influence of the vapour, the bare patches of skin, where the scales were rubbed off, became red. The appetite of the animals began to improve, and in a few weeks each one of the animals was well.

Here an active nutrition was excited from the induction of a freer blood-current, by the agency of the most potent known paralyser; and since then, in the treatment of lepra in man, he had prescribed the nitrite of amyl with equally good results. He had also seen alcohol of use in such cases. In like manner, he had seen alcohol serviceable in the early stage of phthisis, and in other instances where surface circulation requires a quickened current. In all these instances, however, the skilled hand of the practitioner is necessary for the successful administration. Let the effect produced pass beyond the required stage of effect, and the remedy is worse than the disease. Leave it to the option of the patient to take what he likes, in any form he likes, and he had better not be prescribed for at all by that remedy.

There are certain conditions of disease in which the balance of the nervous power over the heart and over the terminals of the circulation is not steadily maintained. In some instances the vessels at the terminals are unduly relaxed or diseased, and the heart is relatively too powerful.

In other instances the reverse is the case, and the heart at times is deficient in power to overcome the resistance and induce the vascular recoil. In certain instances of this kind the nervous supply to the heart is irregular, and the failure is evidenced in intermittency of the stroke of the heart. In other instances the heart is weakened by fatty change of its structure, or by granular degeneration. In other instances still the heart is by construction feebler than the resistance it has to meet.

In these instances, one and all, the skilful administration of alcohol is sometimes of benefit, if it be so guarded that it do not produce any effect beyond the first stage of its action. Pushed beyond that, it is immediately injurious, and even dangerous; and, used by the sufferer himself, it is always a source of danger; for he, not discriminating the good from the evil, and feeling an immediate effect that is good, is tempted to go on increasing the remedy, and thereby the damage to himself.

In these cases, if alcohol be wanted, it should be combined with some other antispasmodic—usually with nitrite of amyl—which, in doses of from two to five minims in half a fluid ounce of alcohol, makes an excellent combination.

The author found, in experiment, that in cases where an animal is killed suddenly, as by an electric shock or a blow—cases of death by shock or stun—the resistance to the passage of blood is so intense that it is almost impossible to drive over the arterial circuit a column of fluid. The aorta itself will give way rather than the contraction of the minute vessels. The mode of death, in fact, in these instances, is by sudden and determinate contraction of the vessels under the shock to the nervous system. The nervous system is for the moment surcharged, and the effect is direct on the peripheral surface. Under these circumstances, the heart, if it shall have escaped the effect of the shock, is powerless to act for the propulsion of blood. To meet the emergency of this kind alcohol stands out as a remedy.

It has a true physiological meaning, and it has without doubt a practical value. In such a case, Dr. Richardson said, he has often used it with advantage, and should use it again. It acts here as an antispasmodic—a relaxer of vascular tension.

There is another condition in which, under sudden emergency, it is not so distinctly indicated, and is not so practically beneficial—viz., in conditions of hæmorrhage. It is the practice in such cases to give alcohol freely, and that it enables the feeble heart to recommence work is clear. But as it at the same time relaxes the vessels and opens the way to secondary loss of blood, its use is a danger beyond its advantage. Dr. Richardson has published already in the *Lancet* the evidence on which this argument rests, and did not do more than refer to it in this brief observation on the present occasion.

From the circumstance that alcohol possesses antiseptic properties, it has been assumed that it arrests waste of living tissues, and so conserves the force of life. John Brown, the author of the Brunonian system, seized on this position, and made a great point of it in the controversy in which he engaged. It has since been used by many observers. It has been held, even of late, that if alcohol be not, in the strict sense of the term, a food, it so suspends vital action as to prolong that action, and is therefore a conservative remedy.

The evidence on which this argument rests is at best conflicting and wanting in proof. The chief argument is that some men or women have lived for many weeks, and even for months, when deprived of all support except alcohol.

There are, however, two objections to the evidence of such cases, as well as to the inference drawn from it. The objection to the evidence is that in such cases the medical observer is liable to be deceived by the statements of those who have the patient under observation. The objection to the inference is that, if the evidence were true, there is no proof that the alcohol played the part assumed as distinct

from the water that accompanied it. In the year 1828 Dr. McNaughten, of Albany, reported the case of Reuben Kelsey, who subsisted for fifty-three days on water alone. The facts are as precisely stated as they can be. In a case which the author once attended, a man refused all food except water, and, as far as could be ascertained, had nothing else, and for eleven weeks held on to this resolve before he succumbed. In the case of the Welsh miners there is distinct evidence that they, during their long incarceration, subsisted on water.

We must, therefore, accept the evidence of the value of alcohol in regard to its sustaining power *sub judice*, and when we come to practical concerns where there can be no doubt whatever, we must be even more reserved. In the treatment of starvation in cases of stricture of the œsophagus, the very types of cases of the kind under consideration, no more injurious practice can be applied than the administration of alcohol by any means. In such instances alcohol excites the heart, produces febrile disturbance, interferes with the natural secretions, increases cough, and encourages waste. By the side of milk it has no place whatever, neither does it offer a single indication of its value as a food.

In studying the relation of alcohol to disease, no other arguments can, in the opinion of the author, be scientifically offered in support of its use and service beyond those to which he has drawn attention. Excepting in the cases named, in which alcohol may be supposed to play a useful part, but in which it cannot be placed as standing alone as an absolute necessity, he would maintain that total abstinence is as sound a practice in disease as it is in health. Certainly no facts, no series of facts, are more remarkable than those which are revealed when the treatment of disease is observed minus alcohol as a remedy. It soon comes to be a rule with all observers in this school of thought, that the less they trust to alcohol the less they see reason to believe in it; that even in its position as a medicine it is of all the more useful remedies the

least necessary; and that he who willfully leaves its use to the indiscriminate choice of the sick, or to their ignorant attendants, commits a breach of trust which no professional protection in this day of awakening knowledge can for any long time excuse, justify, or guard.

THE DISCUSSION.

The CHAIRMAN, in proposing a vote of thanks to Dr. Richardson, said he would not at this stage of the proceedings make any observation of his own with respect to the subject of alcohol, but simply request those who might wish to join in the discussion to confine themselves to the medical aspect of the case. Dr. Richardson had given the opinion that alcohol in any form, in both health and disease (except some rare forms), was injurious, but he was sure there were present some medical men who were in the habit of prescribing it and seeing its effects every day, who might be disposed to give a somewhat different version of the case. They were all agreed as to the injury caused by the abuse of alcohol, and he was aware how difficult it was in these days to say anything in favour of alcohol, but still he believed there were some who had feelings on the other side, and he invited them to say what they were.

After a pause, Dr. CROSBY proceeded to say that, considering the almost universal adoption of alcohol, in this kingdom, there must be something to recommend its adoption, although there was so much to be said against it. People passed through life taking a glass of wine after dinner, and a glass of beer at some other time, and passed a pleasant social evening, and at the same time went on the allotted period of life without suffering the slightest inconvenience attributable to alcohol. He personally had never been a large consumer of alcohol—in fact, for the last fortnight he had taken none whatsoever, and therefore, he stood before them as an example. He did not think he ought to wait now to detail his experience, but still he might say

that he felt neither the better nor the worse for his abstinence. But his friend the reader of the paper suggested that he had not carried on his abstinence long enough. Well, he must confess that he looked upon alcohol with a little misgiving when it passed by him, but still he only regarded the absence of alcohol as he would the absence of a condiment at his meals. He certainly did not sleep better—if anything a little worse—but he had been able to do his work quite as well, both physical and mental. He had probably felt a little less tired upon water than upon his moderate amount of alcohol. Nevertheless, it seemed to him there was something more in the subject than its scientific bearing to account for its general adoption. In civilised and uncivilised countries, and throughout ages past of which they had no trace, all classes of people seemed to cling to this matter of alcohol. If its use were really attended with so much damage to the constitution, if people upon the moderate use of alcohol were much more liable to disease than without it, and if they cut short their days, he was disposed to think they would have discovered their mistake, and either modified or abrogated its use. Speaking as a medical man, he had frequently prescribed alcohol, and had found it in many cases his mainstay. He could allude to circumstances where life had been absolutely saved, where patients unable to swallow had it introduced by other means. Now, he thought they would give up a very powerful agent if they placed alcohol on one side. Indeed, he was still wavering on the point that, if they absolutely gave up alcohol in daily use, whether they would not be giving up (although it could not be proved) a certain amount of sustaining power.

Dr. SUTRO, of the German Hospital, Dalston, said that perhaps he had more opportunities than some of observing the difference between English drinking on the one hand, and German drinking on the other. In the German Hospital the patients were mostly German, but sometimes English. When pneumonia affected the

latter, the case was always much more obstinate and dangerous, and the fever more difficult to subdue. He could call to mind two cases of moderate-drinking Englishmen (so-called) who suffered from pneumonia. One had his lung completely hippodised, and there was a somewhat similar result in the case of a young lady, both of them being seen thirty-six hours after the attack. English patients were always asking for alcoholic recommendations, but he always objected to give them, telling them they had much more chance of recovering on a *régime* of abstinence. In Germany people drank, but not so heavily as here. He could not quite agree with Dr. Richardson in his limitations of the use of alcohol in disease, though his profound researches into this subject entitled his opinions to be received with the greatest respect. At the same time he thought that alcohol as a medicine had been very much abused. He found a moderate quantity of alcoholic drink useful to patients when it was necessary to restore what he might call their equilibrium. He always told them to leave it off when the occasion was passed. Then in cases of fever, when a relapse took place, unless something were done immediately for the patient, there was danger of death. He had found this in cases of typhoid fever. He was of opinion that spirits prevented persons assimilating their food, but certainly in disease he would give them more frequently than Dr. Richardson had stated.

The PRESIDENT: I conclude that you consider total abstinence from alcohol an advantage.

Dr. SUTRO: My own observation of about thirty-five years has led me to refrain from ordering it where I did not see a distinct necessity.

Dr. HORTON said he was sure the paper was calculated to do immense good for this if for no other reason, that the argument for temperance was put in such a clear and logical way. The logic could hardly be answered if the propositions were taken consecutively, but he thought he had skimmed lightly over one or two points,

which, had time allowed, he would have been able to instruct them equally upon. One was as regards the use of alcohol in an emergency. The only case he mentioned specifically was that of hæmorrhage, where of course alcohol would have its disadvantages in causing the relaxation of the vessels. A benefit, he thought, was to be obtained from alcohol in the case of sudden shock, when it enabled the system to give out force which was previously stored up in the body. It did not convey force, but it caused the evolution of force already possessed, and consequently it drew a bill upon the health repayable afterwards with interest. But then ready cash was sometimes of such advantage that it was worth while paying the interest, and in case of emergency and shock he thought this held good of alcohol. Solomon said, "Give strong drink to him that is ready to perish, and wine unto him that is heavy of heart." That sentence put the thing in a nutshell. In the case of exhaustion consequent upon overwork it would enable a man to digest his meals, and it was particularly useful to the physician in this way. As to the great injury alcohol did there could be no question, and much harm had doubtless resulted from prescribing, but he had known cases cured at hydropathic establishments which had defied cure at home simply because the patients put themselves under the *régime* of total abstinence. On the other hand, were they to suppose that a moderate amount of alcohol was injurious? It took a good deal to kill a man. He was once consulted by a man of advanced age, who told him that he had hardly ever had medical advice in his life. He (Dr. Horton) was rather curious to know what the special circumstance was to which his immunity from doctor's bills was to be attributed. He asked him if he was a teetotaler. "Not particularly." "What do you mean by that?" "I mean I have my tumbler of punch every evening." "Do you smoke?" "Yes, I smoke regularly." "Are you an early riser?" "Oh! not particularly. Until I was sixty years

of age I got up between four and five in the morning, but latterly I have not been getting up till seven." He (Dr. Horton) considered that in his case early rising was the principal factor.

Dr. ROBERT FOWLER remarked that in these days it was almost as great a crime to say a word in favour of alcohol as in favour of Gladstone and peace. However, he would make a few observations on the remarks of Dr. Richardson. He had taken a definite rule as regards abstinence, but he had not made any restrictions—in other words, he had not taken into his calculations the idiosyncrasies of people. He would like to elicit from Dr. Richardson whether under any idiosyncrasy alcohol might not be a necessity at some period of life. Many persons, they knew, had not perfect health. There was some little screw loose, and they couldn't exactly say where it was. They wanted something to bring them into the normal condition that a good many people were in. Probably Dr. Richardson would call that a case of disease, and that it would come under his second category, but he would excuse him for saying that a person who was not in complete and perfect health was yet healthy. As regards the question of age, they must all admit that the absolute absence of alcohol was essentially good for the young; but in the work-day of life they also knew that there were many men whom they met in their daily walk who required just the first stage of alcohol to perfect them in the enjoyment of life. As age came on, the percentage of those who did not require alcohol was small indeed. He spoke thus from some experience in his own family. Two or three of its members had lived over ninety years—two to ninety-seven and one to ninety-three. Those three persons were in early youth abstainers. In later life stimulants appeared to be an absolute necessity to keep them alive. So much on the physiological part of the question. He was glad to hear that Dr. Richardson did not exclude alcohol from the *materia medica*, and

he (the speaker) thought it would be absurd to do so on account simply of the terrible tales which the newspapers told of the doings of drink—as absurd, in fact, as it would be to exclude opium on account of the sad scenes which were depicted in the low dens of China and Ratcliff-highway. He was pleased to hear what Dr. Richardson said of the bad influence of alcohol in cases of starvation. From the literature he collected resulting from the well-known case of the Welsh fasting girl, he satisfied himself that the influence of water alone in prolonging life was quite sufficient to explain those cases in which men have lived for a long time on water.

Dr. RILEY, of Hackney, said he was a great advocate for alcohol and it had struck him forcibly that Dr. Richardson had not alluded to the influence of alcohol in filling the blood. He (the speaker) believed it did so. Facts were stubborn things, and they were decidedly in favour of this view. He tried abstinence for six weeks, and became thoroughly miserable. He went to Dr. Bentham, of Hackney, at the end of this time, and said—"I am trying to do without alcohol, but my wife tells me I am miserable and unhappy, and that I must give it up." He replied, "You have not tried it long enough," and Dr. Richardson would doubtless make the same remark. Yesterday when driving through the street he accidentally drove over a poor crossing-sweeper. It turned out that the man was drunk, and so he did not feel the shock as he would have done had he been sober. He told the crossing-sweeper to call on him the next day, and he settled the matter and got nicely off by giving him a shilling! The speaker went on to quote Sir Henry Thompson, but, as Dr. Richardson afterwards pointed out, gave an entirely wrong construction of the words that had fallen from that eminent surgeon. Dr. Riley went on to speak of the danger of sudden abstinence, and said that arsenic and opium-eaters could not bear to leave off their drugs suddenly.

The PRESIDENT wished it to be

distinctly understood that he had not said he was miserable on account of abstinence.

Dr. DRYSDALE said they had heard much of the sobriety of France as compared with England, and if he believed that he would have been inclined to conclude that the drinking of a moderate amount of alcohol was useful and not injurious. But what did he find? Why, this, that in Paris the same tale held true as here; that next to pulmonary consumption came the diseases induced by alcohol. That alone would be sufficient to convince him of the great harm of taking even a moderate amount of alcohol in temperate countries like France. He had never entertained the slightest belief that alcohol was a food, but his researches had pointed him quite the other way. It appeared to him that we had all lived for nine months upon milk, and he could not conceive how to distinguish a food unless he discovered whether it had any of the properties of milk or not, and he could not find any trace of alcohol in milk. Hence he had never been able to see how alcohol could possibly be a food. That had been his argument from the first, and until it could be refuted he must hold to it tenaciously as one having the solid basis of truth for its support. What was the difference between alcohol, ether, and other substances of the same kind they used? He could see none whatever. They were merely drugs, and they had nothing to do with the economy of ordinary life. In this matter he wished merely to take one side, let who would take the other. He held up his hand for Dr. Richardson's view of the case, which appeared to him to be scientific, clear, and in every way satisfying to the experience of a medical man. With regard to the use of alcohol in disease, that was quite another affair. They had as much right to use it in disease as opium. Personally, he would give alcohol whenever he thought it necessary, and if he withheld it under such a conviction, he would not be doing his duty to his patient. The whole of the statistics they were able to

collect showed that the man who lived without alcohol lived the longest. His own mother had been a total abstainer for eighty-seven years, and at the present moment was in excellent health, and played a game at whist every night. He maintained that alcohol and tobacco deadened the sensations to the simple pleasures of life. They took away from them the susceptibility that they saw in a school-girl who lived upon bread, butter, and mutton. Instead of the pleasures of nature they took to the coarser ones of alcohol and tobacco. It was all very well to say that children ought not to take them, but at what age should this salutary rule be abandoned? If it was good for his children to abstain, it was good for him as the child's parent to set the example.

Mr. HOWELL said that if they all went away with the idea that they could, like Dr. Richardson, give up stimulants, many of them would make a great mistake. It was not every constitution that could do so. He quite admitted that a limited amount of work performed in a pure atmosphere could be done upon a *régime* of total abstinence; but, whatever the physiological reason might be, the practical outcome of experience was that it was not of universal application. He saw present a clergyman whom he knew to have given up stimulants with advantage, but he knew another who was compelled to resume them. He had seen a third who said he could abstain during his holiday, but when at work he required them. And now, fully deploring the evil effects of intoxication, he might be allowed to say that what was wanted was not so much alcohol, but a liquor not intoxicating and yet exhilarating, of which a man could take a draught without being drunk. He remembered reading a paper published with regard to harvestmen in Devonshire, in which it was said that where home-brewed beer was given the men drank largely, but did not get drunk. It was, he thought, a national calamity that such a drink as he suggested was not forthcoming. At the same time he fully admitted

that very hard work was done upon barley-water—harder indeed than was done upon beer. Some years ago he took a great distaste to all fermented liquors, and for some years was an abstainer. During those years he found he could do a great deal of work, but not so much as when he took stimulants. He preferred, however, to take no stimulants when he had hard work to do. If he sat up at night, a stimulant always perplexed and incapacitated him; but after the strain of work was over, the temperate use of wine was not only agreeable, but beneficial. He thought that truth lay between the two extremes. The physiological effect of alcohol was not yet proved, and the way in which this question was dealt with reminded him of the man who argued that nobody could live upon potatoes because they contained nothing but starch food, when there was the fact staring him in the face of the experience of the sister isle.

Dr. FLETCHER BREECH thought that one point had been brought out, viz., that alcohol was not only a stimulant, but a narcotic, though the two effects had been somewhat confused. Unfortunately, many writers took the action of a drug when given to the fullest extent, and declared that also to be the action of the drug when given in its smallest extent. This was a delusion, as would be seen by an application of the same argument to the condiments of the table, such as salt. Now, alcohol given in small doses, as a stimulant, did good, but in large doses it acted as a narcotic, and did harm. This accounted for the flushing of the face and brow, which was not present when alcohol was given simply as a stimulant. Dr. Anstie made many experiments, and came to conclusions which ought not to be forgotten in the general discussion now going on in the medical profession. Among other things, he said that one effect of alcohol as a stimulant was to reduce to undue degree the circulation of the blood. In typhus fever they all knew the heart beat more quickly, and a stimulant arrested the nervous energy and reduced stimu-

lation. Dr. Anstie carried his observation into the question of reducing various stages of excitement, and found that this was the effect of alcohol. The law he laid down was that stimulant should be given either to reduce excessive force of circulation or to increase it, and not because it acted as a stimulus, but aroused the nervous energy which up to that time had been deficient. He had tried to do both with and without alcohol, and he had found that there was a great difference between living in the country and in town. In the country one had a large amount of oxygen, but in London there was more excitement, so that many required alcohol in London who could do without it in the country. Again, we were not all on the same level of health, and this ought to be taken into consideration. He had himself a weak digestion, and had tried to do without alcohol, but he never suffered so much from his complaint as during a tour in the United States, when he had to drink the water supplied there, and do without alcohol. His patients were of the idiot and imbecile class, and he found that to treat them without alcohol was of no use. Stimulants were necessary, in order to raise the tone of nervous energy which they had lost. He lost fewer cases on the alcoholic than on the non-alcoholic *régime*.

Dr. GORDON, of Halifax (Nova Scotia), said that, having heard so much of Dr. Richardson's labours on behalf of temperance, when he heard that there was a paper to be read by him on alcohol, he could not resist the temptation to come and hear it, and subsequently of adding a word with reference to the state of this controversy in Canada—first of all with reference to the use of alcohol in the treatment of disease, and, secondly, with regard to its use socially. A great tidal wave of temperance was spreading over the United States and Canada, and that had taken its first rise amongst the people themselves. Great help was being derived from the progress of the cause here, and the opinions of such men as Dr. Richardson were largely quoted all over America, as substantiating the position

taken up by the unprofessional part of the community. The general feeling amongst the medical profession in Canada was to avoid alcohol as far as they could. Its utter abandonment was still a "vexed question"—not so its indiscriminate use. In reference to giving it to children, even while they were ill, or when recovering from acute disease, he thought that the practice and feeling of the profession was largely to avoid it altogether. The idea was that plenty of nourishment, fresh air, and moving out-of-doors, was more likely to be of use in restoring children than the administration of alcohol. He was sorry to observe since he came here that alcohol was frequently prescribed to children when ill and sometimes in health. Such a system was almost unknown in Canada of giving beer or wine to children as a portion of their ordinary food. One other point mooted in this country was the supposed power alcohol gave to resist fatigue. Well, he knew it was customary for people to take plenty of alcohol when performing long journeys. In North America, in winter time, it was customary to drive twenty to forty miles with the thermometer ranging to 33 below zero, and it used to be thought necessary to take alcohol on such a journey. It used to be served out to the lumber men, principally in the form of rum. Now, such a thing as that was almost unknown. Those men did the best work and endured the most fatigue who abstained from it altogether. Personally, he, like the president, had tried both sides, and the experiment had decidedly been in favour of abstinence. He could endure more fatigue, had a quieter heart, a clearer head, sounder sleep, and a better digestion than when he took it. In conclusion, he would remind the medical gentlemen of London that a great responsibility rested upon them, inasmuch as the opinions they stated in the medical papers were eagerly read in the Colonies, and the recent change in view on this point had largely influenced for good the action of their *confrères* in Canada. He was glad to have had this opportunity of seeing

Dr. Richardson with the eye, and hearing him with the ear, for he had rejoiced in his works and respected him for them.

The Rev. WILLIAM CLEMENTS said he had been for thirty-seven years a total abstainer, and during the whole of that time had never had occasion to call in the services of any member of the profession which was so ably represented in this theatre to-night. Mr. Clements went on to say that he became a teetotaler to save a poor drunkard. He would not sign the pledge without he (the speaker) doing it likewise, and so he gave him the moral support of his example. Well, he kept him to that pledge for thirty years and more, but he fell ill, and a medical man prescribed alcohol for him. The consequence was that the old appetite revived, and that very man, after keeping the pledge for thirty years, died a few weeks ago of delirium tremens. "I hope," said Mr. Clements in conclusion, "the medical men present won't think me rude if I say that when such may be the result of their alcoholic prescriptions, they ought to be very careful."

Dr. LAVIES said he was a teetotaler of two years' standing. During that time he had undergone as much mental anxiety and fatigue as in any former period of the same duration, and not only had he felt no worse for his abstinence, but very much the better. He had the care of the Wandsworth House of Correction, in which there were always 700 women, of whom the average number of drunkards might safely be put at 500. Now, he had the opportunity of noticing the effect of the sudden cessation of alcoholic drinks upon them, and he mentioned the point because he knew that Dr. Richardson would be specially interested to hear it. He (the speaker) had made it for a long time his inviolable practice to refuse all the applications made to him by those women to give them alcohol in any shape or form, and he had never found the slightest harm in any case to result from that. He might add that there had been what he called "a merciful Act of Parliament" passed lately, by which

magistrates were permitted to sentence those prisoners who were in the habit of being sent to prison frequently for periods not exceeding twelve months. Those persons had been sent in as habitual drunkards, but in every instance their health had most wonderfully improved, and before they left the prison they were changed in appearance, and had gone out in such a condition that their friends hardly knew them.

A MEDICAL MAN drew attention to the fact that Dr. Carpenter was once a strong advocate of total abstinence, but lately, in one of his works, he had admitted that he did not get on so well without two glasses of claret a day. He (the speaker) had tried total abstinence six times, but always with the same unsatisfactory result—his experience, in the main, confirming that of Dr. Carpenter.

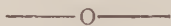
Dr. RICHARDSON then rose to reply, and in the course of doing so made the following with other observations: "It has given me the greatest possible satisfaction to hear this debate. There are two parts of it which have been singularly gratifying—the first, the most pleasing and delicately-turned compliment which my Canadian brother, Dr. Gordon, has been so kind as to pay me, and the valuable evidence which my old friend, Dr. Lavies, has given, with the announcement that he himself has come to the side of total abstinence. It is impossible to touch on all the points raised in the time at my disposal, but I will deal with the most important. The president said that he felt neither better nor worse for total abstinence. He takes four glasses of claret a day, which means about 12 ozs. of wine, containing, say, ten parts of alcohol. That is a small quantity, scarcely sufficient to produce any marked physiological effect. Canon Farrar has said that abstinence was no change to him, because he took so small a quantity before. Reference has been made to carbuncles and boils following upon abstinence, but my experience is quite the reverse, and I speak advisedly, because recently I have been going through my case-book, now extending over twenty-

eight years; and though I do not mean to say that total abstinence prevents boils and carbuncles, and admit that a number of persons who begin to abstain give way, and attribute their declension to boils, but I can find no justification for the plea on a review of the cases that have come under my observation within the period named. As to alcohol being justified by its long-continued use amongst civilised communities—there is no argument in that whatever. In the childhood of the world all sorts of childish things were done. Many gods were worshipped, races went about in a state of nudity, and amusements were instituted which, in a more or less modified way, have continued to the present time—as bull-fights in Spain for example; but there is no reason why we should continue the same courses after we get light to guide us aright. On the other hand, there were nations that did not use alcohol, and what of them? Columbus discovered nations where he found no such drinking habits. It is notorious that the New Zealanders were free from the ‘fire-water,’ until we introduced it amongst them. We are arguing upon a mere trifle when we advance that, because a thing has been so long in operation, therefore it must be continued. It is a wiser course to ask whether the thing be useful, and retain or reject it accordingly. As regards the question of emergencies referred to by one speaker, and to the immunity from the action of alcohol which some people experience, I said that there were emergencies in which alcohol was probably useful as a remedy, and I instanced the case of sudden shock. In that class of cases the paralysing action of alcohol is physiologically correct and useful, and hence the case which Dr. Riley instanced where an intoxicated man bore the sudden strain so well. Dr. Fowler raised the question of idiosyncrasies, and the different states of health of different individuals. Now no week of my life passes but what somebody consults me on the point whether in advanced age he should either take to stimulants or give them up. In the past fifteen

months I have boldly advised all persons, although of advanced age, if their inclination went that way, to give up stimulants boldly. Persons over eighty who have given them up have reported invariably to me that the result has been favourable. They sleep more soundly, take their food better, and this bugbear of advancing age as a necessity is removed. As to the remark about digestion, Sir Henry Thompson has said that in his opinion digestion goes on better without alcohol, and has given just the reverse statement to that which has been put into his mouth by Dr. Riley. As regards the sudden giving up of stimulants, Dr. Lavies has answered that, and all the prison facts throughout the kingdom corroborate what he says. I can find in the records of no prison whatever an instance where any injury has arisen from the sudden breaking off of alcohol. Sir Robert Christison has expressed his surprise at the health of the prisoners, and that health is attributable, by all the facts, mainly to abstinence. Dr. Drysdale has touched on a good many important points, and his observations as to there being no difference between the effects of ether and alcohol entirely concur with my own. Mr. Howell says that living in a pure atmosphere is necessary to abstinence; but the fact is that those who take alcohol in an impure atmosphere suffer more than they would otherwise do. If there is a condition when a man does not need the poison of alcohol to be added to the poison around him, it is when he is living in an impure atmosphere. I would recommend Mr. Howell to read a letter by Mr. William Howitt on the subject, and in respect to working with and without alcohol, I feel that work is done far better on total abstinence. Touching the introduction of a new beverage I have sometimes thought it would be desirable, but on the whole have come to the conclusion that that beverage which nature gives us in such abundance—water—is the only one that is ever intended for us to drink. Mr. Howell intimated that the Irish lived on potatoes, but as a

matter of fact they lived on potatoes and butter milk at the time he mentioned. As to the treatment of the idiot and imbecile with and without alcohol, I should like to see that carried out in a very perfect and accurate way. We would want all the circumstances connected with the cases detailed before the precise results could be assumed. Dr. Gordon said that in England the medical profession had led the way in respect to temperance. No! it was not so. It was a few simple-minded working men in Preston who started this movement, and I take shame to myself that I did not long ago belong to the movement. It is against our profession, and against the clerical profession, that the lowest of the people have been the men first to think out this question, and to call public attention to it. The medical profession is even yet not alive to the great movement that is going forward in England, and

it is time that it did fully awake, and take the lead, and not follow tardily behind in that which I venture to call the great work of regeneration in this age. Mr. Clements' evidence is valuable, and is confirmed by that of other clergymen. I am very sorry that Dr. Carpenter's later experience contradicts somewhat that of his earlier years. I can't myself see the physiological necessity for taking a couple of glasses of claret a day. I think if any one would try the experiment of leaving it off, attend carefully to digestion, and give up some foods which are objectionable, that the little remaining quantity of alcohol might be dispensed with, because it can produce no marked physiological effect." Dr. Richardson concluded by expressing the pleasure it had given him to be present that evening, and by recording his heartiest thanks for the friendly welcome that had been extended to him.



ALCOHOLIC DRINKS: AS DIET, AS MEDICINES, AND AS POISONS.

The Oration delivered to the Medical Society of London for the Year 1878.

By ALFRED CARPENTER, M.D., *Croydon,*

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I HAVE assumed that the establishment of an annual oration is not for the purpose of proclaiming some new discovery, or propounding some new theory, but rather for reviewing the evidence which has been obtained upon some given subject, and which has been, more or less, already submitted to the notice of the assembly to whom the oration is delivered.

From such a standpoint, I propose to deal with "alcoholic drinks." The subject is one of vast importance to the medical world, whether it be considered from a therapeutic or from a sanitary point of view, and on that account no excuse is needed for taking it as the theme of this year's oration.

A review of the effects of alcohol upon a healthy man, as well as of its

therapeutic use, may be taken under different aspects, viz., as a diet, or as a medicine, or as a poison. They are intimately associated, and the reasoning which will apply to the consideration under the one head will, more or less, apply to the others.

The use of alcohol as a diet has been strongly condemned, and indeed prohibited, by influential leaders among us. Its usefulness as a medicine has been distinctly challenged, and it has been stigmatised as a poison under all circumstances by some whose professional opinion upon most matters usually commands respect. Others, again, of equal talent and experience, affirm that it is a food of great use, that disease cannot be so successfully treated without it as by its aid; and

both sides assert that the chemist and physiologist are able to show us how it acts and how it is removed from the body.

I propose to review some of the evidence which has been produced by these different schools of thought in an unbiassed manner, and for this purpose to consider the action of alcohol from a chemical and physical as well as therapeutical standpoint.

I apply the term "alcoholic drinks" to all those liquors in common use as articles of diet in the composition of which alcohol finds a place. The universal employment of this particular class of liquids indicates a natural requirement of some kind. Their use may be condemned as unnecessary, or even hurtful, by sensible men as well as by enthusiasts, just as chimney-pot hats or stays may be condemned; but the condemnation does not prevent their use by the public at large, because the general opinion is that they are necessities; and this opinion is fostered among some of us because it entails no trouble to accept it as true. But that alcoholic drinks are not necessities of life is proved by the fact that millions of people do not use them, and, as far as practical observation goes, those people do not suffer from their non-use. If a number of people be deprived of sugar, of fat, salt, vegetables, or water, the effect is soon manifest; they are necessities of life, and, if they are absent from the diet-table, those omitting to use them as articles of food suffer sooner or later in their health from the exclusion; but those who never touch alcohol in any form never show any distinct signs of evil from its non-use. It is not, therefore, a necessary of life for ordinary people and for common purposes, and if used as an article of diet, it must be considered as a luxury and not as a necessity. It is possible that fluids containing alcohol may be useful in their way, in the same manner as turtle-soup and Stilton cheese are useful to those who like them; it will be an advantage to the art and science of medicine if its professors always view them in that light, rather than as things that are absolutely re-

quired for the ordinary production of chyle.

Some things which were formerly thought to be luxuries are now considered to be necessities, such as tea and coffee; and it may be argued that alcohol is one of this class; we can do without them, but they are very useful as articles of diet, and, unless it can be shown that they are more injurious than useful, the argument is a good one. I have, therefore, to inquire in what way alcohol may be beneficial when used as a luxury.

I will first dispose of some arguments which are employed both for and against its common use. It is sometimes said that it is an evil thing, which should be put aside altogether; the advice being founded on the fact that animals will not touch it, and it is said that their example should guide us to reject its use. But, are we prepared to be guided by animals in other matters? They never cook their food or make exchanges among themselves of one kind of food for another, or use artificial coverings. It would be quite as reasonable, on such foundations, to argue against cookery and barter, and to assert that milliners and tailors are unnecessary traders, because animals never cook their food or put on other than their natural coverings. We must look deeper into the case, and get more certain proof against the use of alcohol than this, before we can justly decide that it is hurtful under all circumstances and ought to be dismissed from common use.

The evidence derived from its rejection by animals not helping us, we may look to its effect upon the human economy. There has been a conflict in all ages of the world as to the good or evil effects of wine and strong drink. It has been styled God's gift which cheers the heart of man, as well as the "Devil's draught" which steals away his intellect; but so of sleep, "tired nature's sweet restorer," the author of Proverbs says: "Go to the ant, thou sluggard, consider her ways, and be wise." Sloth is the result of excessive sleep, but we must not banish sleep because "some sleep their fill and take their soft repose." A

late writer and noted chemist wrote (in his "Lectures on Food") that "the universal use of fermented liquors was the indication of their serving a profound physiological purpose and supplying a common want. The fact," he says, "of their use from time immemorial, and that no fluid containing sugar, whether the juice of vegetable matter or the juice of fruit, can be exposed to the air without spontaneous or immediate fermentation, are evidences of useful purpose." This argument is as unsound as that which objects to stimulants because animals do not drink them. We might just as well assume that, as milk cannot be kept exposed to the air without rapidly changing, therefore the changed milk is "evidence of useful purpose," and that articles of diet which, sooner or later, have become tainted, become so that they may "supply some common want."

The first question we have to solve is, whether any force can be produced out of alcohol, *quâ* alcohol, either as animal heat, muscular power, or nervous energy. Is it capable of being at all utilised in the animal economy? Dr. Henry Bennet says ("Nutrition in Health and Disease," p. 64) that alcohol feeds organic combustion and creates heat; and even Dr. Richardson ("Temperance Lesson Book," p. 182) says that, "in its first action it causes the warmth of the body to rise." But there is then a divergence of opinion; on the one hand, eminent men agree with Dr. Bennet, and assert that alcohol is rapidly decomposed and heat disengaged. Dr. Parkes, from his practical observations, was satisfied that it did evolve heat, though it lowered the temperature for a short time after being taken; whilst others equally eminent affirm that there is no utilisation in the ordinary sense, and some say that the whole of the alcohol is passed through the body and is expelled without any of it being changed into force-producing matter. I cannot endorse this opinion, because it is contrary to almost universal therapeutic experience. Every medical man in extensive practice must have seen cases, which now and then have

fallen to my lot to witness, in which life has been prolonged for many months without any other nourishment than that which was contained in the spirituous liquors or wines which the patient would alone consume; cases in which it was impossible for life to have been sustained upon the few grains of organic substances which were contained in the colouring matter or extractive of the liquor, or in the sugar which is sometimes given with the stimulant. It has been shown that dilute solutions containing alcohol of about the strength in which it is likely to be found in the body, viz., 1 in 1,000, if passed several times through six inches of a silicated carbon filter, metamorphosed the alcohol into complex products non-volatile at the boiling point of water; the alcohol being changed by this plan of proceeding into glycol, which is considered one of the saccharine group. If this be a possible contingency, it may be transformed into force in the human economy under certain unknown circumstances, and as such it may be useful without danger as a luxury. It may be argued by the austere ascetic that all luxuries are evil, and that they should not be used at all. I need not stay to consider this line of argument. To abolish all luxuries would be to bring enormous misfortunes upon the whole race of mankind, for which there could be no excuse; and I must assume that a luxury which is not immediately injurious may be fairly used by all who can afford it.

It is forcibly argued by some, whose opinion is worthy of deep attention, that alcohol is hurtful under all circumstances. They state that it is immediately injurious to those in health, and that there are other stimulants, equally if not more useful, which could be employed in disease. They contend that its ordinary sale should be prohibited on that account, in the same way that arsenic or strychnine is prevented from being a common article of merchandise. Let us now look into this view of the question, premising again that the individual experiences of those who have been accustomed to the use of stimu-

lants are not in any way to be depended upon for an accurate estimate of their effects, and that their evidence is worthless for scientific purposes.

If alcohol be administered in potent doses to one unaccustomed to its use, there is no doubt of its injurious and even fatal results; but such would also be the effect of the administration of potent doses of phosphorus, sodium, or potassium, and yet they exist as necessary elements in many foods, and are absolutely required to enable the body to be built up properly. Because, therefore, a large dose of alcohol, phosphorus, or calcium is injurious, it does not follow necessarily that a small one is mischievous likewise. Indeed, if lime and common salt are withheld, the constitution is sure to suffer; we have rickets established in the one case, and in the other the body is tormented by parasitic life. We must not assume that, because a large dose is injurious, a small one is so also. Lime and salt are necessities of life, and yet they are injurious in large doses, and it is not an argument against their use in small ones. Alcohol, like lime and salt, may be beneficial if used at the proper time, and it ought not, therefore, to be absolutely prohibited as a common article of commerce unless it can be shown that some injurious sequence is sure to follow sooner or later upon its use in small ones.

We must look a little closer into its action upon animal life before we can solve this point. The first deduction to be made from its continued use is, that the body, after a short interval, becomes very tolerant of its effects, and apparently the more, in moderation, a man takes into his system, the more he can carry without apparent injury. Those accustomed to the daily use of alcohol can take a much larger quantity with impunity than the teetotaler can do. One man may take a bottle of wine and half a pint of brandy every day of his life, whilst another man only takes a bottle on a given day once a week, or three or four glasses of brandy and water on Saturday night. The one may be of the race of "fine old English gentle-

men," who never transgresses the rules of propriety, and goes honoured sooner or later—generally sooner—to his grave with blessings on his head; whilst the other becomes an habitual drunkard, a transgressor of the law, and an outcast of society, although he does not consume one-sixth part of the liquor which is taken, apparently with impunity, by the other. This result shows that conditions vary very much in different constitutions, according to the regularity with which the dose is taken, and alcohol, or some of its constituent elements, collects much more rapidly in some habits of body than in others. It differs within certain limits from most reagents, and helps to protect those using it regularly from its own evil effects. In this it appears to be allied with tobacco, and also with certain miasmatic influences, which require some constitutions to be acclimatised before they can bear that which is manifestly injurious in its first effect, however they may be able to stand against its bad influence after a time.

It is stated by microscopical observers that alcohol acts immediately upon the blood-corpuscles, as well as on the fibrin which is contained in the liquor sanguinis. It is said that one part of alcohol mixed with five hundred of blood interferes with the power of the corpuscles to absorb oxygen; it abstracts water from the blood-discs and makes them adhere together in masses in the blood-vessels; it also causes the plastic or fibrinous part of the blood to coagulate, which then collects in the capillaries, and the current may be thereby stopped.

From frequent observations I incline to believe that this is true, and that this result explains some of those unfortunate cases which now and then occur to the obstetric practitioner. The free administration of alcoholic stimulants to the weak and debilitated, especially when there has been hæmorrhage or long-continued suffering, and perhaps too great dependence on stimulants, has led to the sudden development of embolism. A clot of fibrin has been deposited rapidly in the heart or large blood-vessels, and

the patient is dead in a very short time. I have also seen many cases of paralysis and epileptiform convulsion which had been caused by embolism, and which, in my opinion, had been promoted by alcoholic saturation. Such cases have done well, and have ultimately recovered, if alcohol have been superseded; but, if it have been persevered in, in most instances which I recollect, there was a continuation of the disease. An excessive quantity of alcohol does impede the purification of the blood, and the elimination of carbonic acid, by obstructing endosmose and exosmose in the lung-capillaries; the purple tint which pervades the skin of the regular toper is sufficient proof that this is true. Observation shows that the exhalation of carbonic acid is decreased in quantity after the imbibition of alcohol.

Whilst these are undisputed facts as regards large doses of alcohol, it has not been shown that a similar result follows from the smaller quantities which are found in the weaker drinks, such as natural wines and weak beers.

Alcohol is not cumulative under ordinary circumstances, or the man who takes his bottle of wine daily would suffer more and sooner than he who only takes a bottle one day in the week; but it is cumulative under some conditions at present unknown, and in which it is probable that the ordinary elimination or oxidation is interfered with, so that the toper, who could formerly take his bottle with ease, gets quite drunk by taking three glasses of his favourite liquor. One very eloquent writer, and former orator to this Society, says that, "We may trust a great deal to instinct, and that tastes are, generally speaking, expressions of the wants of the system." I consider this a most dangerous argument to use; for no man taking stimulants can be himself aware of all the harm that they may be doing to his constitution, or know the time when they may become cumulative. All those who indulge in any kind of vicious practices would be glad to be able to rest upon such a dictum, and to affirm, and excuse themselves by affirming, that their vicious tastes

"were but the expression of the wants of the system."

It appears to be supported by a sufficient weight of evidence that, when once the system has been exposed to the full influence of alcohol in such a way that a portion of the blood has been so acted upon that its discs have become corrugated and some of the fibrin coagulated by its action, a cumulative effect may begin, and with that cumulative effect there will be developed a taste for more which prevents the instinctive desires of the individual from being any guide as to the real wants of the system so long as any altered material exists in the blood. The lightest kind of wines generally contain ten per cent. of alcohol, so that they must be diluted with five times their amount of water to reduce them to a harmless condition. The reduction is seldom effected in this country, although the general consumption at the dinner-table of saline waters, which has lately come into fashion, is tending greatly in the direction indicated. Porter, stout, and ales all contain at least double the amount of alcohol beyond that which would make them safe for absorption at all times, unless freely mixed with other things. To take them, therefore, on an empty stomach tends more rapidly to bring about the point of saturation than when food is taken with the drink.

Alcohol transudes most rapidly through membrane, the rapidity of transudation varying very much according to the stage of dilution, and in its transudation it acts upon the membrane. It is quickly conveyed to all parts of the body, and we have no means of judging where it is likely to manifest its first effects, neither have we any means of knowing when the limit is reached beyond which it will not be safe to allow blood-disturbance to proceed. The alteration of shape of a few blood-corpuscles, the interference with their diffusive power, the interference with the transudation power of membrane, or the coagulation of a few grains of fibrin, are of comparatively little consequence, especially if the place be one of secondary im-

portance; but when the number of altered corpuscles passes beyond a certain percentage of the whole volume of blood, evil must result. This percentage is much more rapidly reached in some habits of body than in others; it will depend very much upon the power of those organs to do their duty whose function it is to remove the altered fibrin and imperfect oxygen-carriers from the circuit. If they be defective, deterioration will be much more rapid. Thus, of two men, each taking the same quantity of liquor in the course of a month, one taking it only with food and the other on an empty stomach, the latter becomes rapidly saturated, the former escapes without serious damage.

If coagulated fibrin be not removed as soon as coagulation takes place, if it gravitate to some one organ and impede circulation there, we have the commencement of those organic changes which are constantly found in the bodies of the intemperate classes, by means of which their habits are unerringly revealed to the pathologist. The fibrin may be removed at first without setting up mischief; but the altered blood-corpuscles and interference with physical power of membrane increase the evils which arise from want of oxidising power, and fatty degeneration sooner or later follows.

Here is the great difficulty which meets the view of all those who have considered the action of alcohol in an unbiassed manner, and which has led so many among us to become total abstainers. They refuse to take alcohol as a luxury. The evil is so great and the resulting good so small, that they prefer to do without the good and so avoid the evil; and, as society is at present constituted, they are probably right. Still, the lighter wines, if entirely unfortified, and the weaker beers may be taken with impunity; they may even assist digestion, and be of advantage with or immediately after food. If taken with other food, when great exertions are being made, and when there is a call upon the stomach for fuel to supply waste of tissues, there is sufficient evidence to

show that they enable the machine to obey that call with better effect than would be the case if stimulants were altogether withheld; but, if the effort be continued from day to day beyond the ordinary capacity of the machine, and that effort be sustained by more fuel in the shape of stimulant, the human machine, like all others, must wear out sooner than it would otherwise do.

Whenever, therefore, the consumption of alcoholic drinks exceeds the quantity which gives rise to the probability that more than one part of alcohol to five hundred of water may exist in any part of the circulation, harm, in some form or other, must result. That harm need not necessarily be permanent, and its cause may be removed altogether from the system, or it may be partially removed, a particle of matter being left *in situ*, which acts as a foreign body when alcohol is again taken, aggregating to itself fresh coagulated matter or freshly agglutinated corpuscles, by which the symptoms of alcoholic excess are rapidly induced when those particles are situated in any of the primary nerve-centres.

We may fairly assume that there are occasions in which stimulants may be useful and even necessary; but as habitual drinks they must be hurtful, unless more diluted than we are accustomed to take them, and it appears to be our duty as medical advisers to forcibly state this fact to those consulting us, and to advise their non-use in daily life.

Having come to this conclusion as regards their use as common articles of food, we may now inquire when they are likely to be beneficial as medicines. To enable us to answer this question satisfactorily, we must study their effects a little more closely than we have yet done.

A stimulant in moderate doses promotes the secretion of gastric juice; it brings a flush of blood to the capillaries which surround the gastric follicles, producing congestion immediately. This is relieved by a free flow of gastric fluid, and the rapidity of digestion is promoted. But the

action is followed by a reaction, and the next day there is a deficiency of gastric juice, and, as a consequence, a want of appetite. The deficiency may be remedied by another dose of the irritant. The dyspeptic symptoms are relieved for the time being by a "pick-me-up," and so each daily exhibition leads to increased dyspeptic disturbance, until the follicles are so altered that the whip no longer acts, and the general health fails. If an excess of stimulant be taken at any one time, it acts immediately on the pepsin in the gastric juice, as well as the lining membrane on the vessels, and destroys the power of digesting and rearranging the materials which are contained in the food.

The rapidity of the current of blood being delayed in the capillaries of the stomach, their tension is interfered with, they dilate, and a larger quantity of blood is present than is right; as a sequence, local warmth is promoted, and, in vulgar parlance, "coppers are hot." But it has been fully proved by accurate observers, that the quantity of heat in the body is not materially added to by alcohol, but that, on the contrary, there is a reduction from the general amount in consequence of the loss which arises from increased radiation from the surface of the body. The temperature of the "dead drunk" man is lower than that which usually marks the natural heat of the body. This rule does not obtain at all times, as there are exceptional conditions which occasionally modify it. A dead drunk man often has some disease going on in his body which raises the temperature to above 98.5 deg.; but if there be no active disease, and if the temperature of the body of an insensible person be found below the natural standard without any evidence of collapse from any other cause, it may be safely assumed that he is drunk rather than that he is suffering from active cerebral lesion.

The picture which I have drawn of the gastric vessels may be found in any other organ of the body. There is dilatation with reduced power of contraction. This vaso-motor paralysis, so to speak, is more continuous as well

as more complete in some organs than in others, and some forms of alcoholic drinks produce it much more certainly than others. This is the case if the alcohol be impregnated with some of its allies, especially amylic alcohol and fusel oil; these latter are always more or less present in potato spirit, with which wines are commonly fortified. The influence of these alcohols is very decided upon the nervous centres; they immediately produce some of those exaggerated forms of drunkenness in which violent excitement and maniacal delirium are manifest. They make the fluid pleasanter to the taste; and some of their forms are frequently added for the purpose of producing a so-called "bouquet." Their effects are far more serious and immediate than those which follow from the simple use of ethylic alcohol. Time fails me to do more than simply allude to this important point. It may be that some conditions of the body, which arise from a continuous soakage with alcohol, may enable it to change ethylic alcohol into some of the heavier forms: fusel oil may be manufactured, so to speak, in the human economy itself. The odour of the breath of a dead drunk man is often more than the odour of alcohol; but upon this point chemists have not yet afforded any safe information.

It is uncertain whether the congestion arises from an immediate action upon the tissue of the capillary, or whether the first effect of the alcohol may not be on the nerve, or whether an effect upon the nerve-centre may not also accrue, as well as a local effect be produced before vaso-motor paralysis can arise. It may, like the blush of shame or the pallor of fear, arise from direct nerve influence; or it is possible that the blood, altered by the alcohol, may be unable to affect the nerve-centre so as to exert its controlling influence upon the particular set of capillaries more immediately concerned; or it may act in different ways according as the membrane is or is not altered by the alcohol. Be it as it may in its first origin, the effect is to interfere with the proper renovation and nutrition of the part and to com-

mence a disease of the particular organ affected. Dyspepsia is the first outcome of the use of stimulants, and as a sequence to a common result, viz., inflammation of Glisson's capsule, we may have so-called cirrhosis or fatty degeneration of the liver, and similar changes may take place in the kidney; the heart and large blood-vessels suffer directly or indirectly; the muscles may be destroyed, or the nerve-tissue of the brain or spinal cord may be the parts which show the effect of the reagent first.

There is another class of disease not always so clearly identified with the administration of alcohol. I seldom meet with acute neuralgia in the total abstainer, whilst hysteria is in a great measure absent in those families whose ancestors have been perfectly temperate people. I have traced back several cases of strongly-marked hysteria, and in all I have found a certain dependence upon alcohol, not only in the patient, but also in the patient's immediate ancestors. I have met with numerous cases of acute neuralgia in highly sensitive females; it is generally styled agony in those who are hysterically inclined; some declare that it is only relieved by alcohol or chloral-hydrate, or some other narcotic. The medicine allays the pain if given in sufficient doses; but as the effect of the dose goes off, the disease returns with still greater intensity until, at length, the stomach rejects the remedy, or some other circumstance comes into play which causes it to be laid aside. The pain has then to be borne with for a time, but after two or three days of comparative abstinence, the pain subsides and the patient is in comfort. There is then, from some accidental cause, a transient return of pain; the stimulant or the narcotic is again resorted to; it relieves for a short time, but that relief is purchased by a return of acute pain; there is soon afterwards another paroxysm, and the whole course is gone over again.

A close attention to numerous cases of this kind, both in high life and low life, has satisfied me that, so long as the alcohol is given sufficiently in

excess to induce moderate vaso-motor paralysis, there is relief from the pain; but as soon as that influence lessens there is an aggregation of altered fibrin, microscopic in quantity, either in the capillaries which supply the sentient nerves or in the nerve-cell itself, which sets up an irritation, which is felt at the periphery of that particular nerve, and neuralgia results as a sequence of that irritation.

Many kinds of so-called rheumatism have a similar origin. The imbibed alcohol affects different parts of the cerebro-spinal nervous system, according as the result attaches itself, as altered matter, to one or other class of nerve-cell; and neuralgia, or rheumatism, or rheumatic gout, as they are often called, or even gout itself, is the outcome of the action.

The cases of neuralgic disease, to which I more especially refer, occur in highly hysterical constitutions, and are not generally accompanied by any cutaneous capillary congestion, except when neuralgic pain is absent. There is sometimes great mental power in this class of cases, a brilliant intellect or great genius, which only shows itself when the cerebral capillaries are congested and the cutaneous system gorged with blood. These cases generally go from bad to worse, and end in suicide, or as general paralysis or dementia. The tissue of the brain and spinal cord being subject to changes which correspond, in a great measure, with those diseases of liver and kidney which are induced by alcohol, a low form of inflammation is set up first, and after that atrophy, from impaired nutrition or fatty degeneration, ending in so-called white softening.

There is also a class of cases, not so generally attributed to alcohol as a cause, which I believe to have their origin in its habitual use, which are due to spinal irritation, and are sometimes called spinal neuralgia.

If time would allow, I could detail to the Society numerous cases in which so-called rheumatic pains have continued month after month and year after year, apparently relieved for a time by the use of stimulants: but

the use being always followed a day or two afterwards by renewed pain and general distress, and yet the amount of stimulant taken has been in no way excessive. In such cases, I have omitted the use of stimulants altogether, and, after a few weeks of further suffering, the pains have subsided and there has been a fair recovery. Once or twice I have suspected locomotor ataxy, which developed when the patient has persisted in the use of stimulants, but it has not done so when they have been given up.

Such cases are generally associated with a lithic acid diathesis. However much we may try to cure them, we cannot succeed effectually unless we enforce total abstinence, even putting aside pharmaceutical tinctures. The plan is often given up by the patient too soon; he finds that the pains are at first even more severe; he becomes disappointed and low spirited; then some acquaintance advises him that abstinence is doing him harm. He takes stimulant unknown to his doctor, he feels renovated by it, his pains are eased, and he falls back into his old habits before there is time to effect the removal from his body of the remains of former doses of his favourite drink. He is then quite convinced that the treatment is wrong, and he will not continue it, whilst, if he had persevered a few days or weeks longer, he would have found relief and been on the high road to obtain a perfect cure.

These cases are allied to those of the habitual drunkard and so-called dipsomaniacs, who are persons who have produced so much mischief in their nerve-centre that they are unable to take even a moderate amount of stimulant without a catarrhal state of the stomach supervening, which at once gives rise to an irresistible drink-craving from which they have no escape if they can obtain alcohol. In such cases there is always an altered state of blood-vessel, or some interference with the nutrition of the cerebral organs, such as a varicose condition of the arterioles or small veins in the nerve-structure, the result

of alcoholic excess, which is at once renewed by each application to the wine or spirit bottle. There may be in such cases a cirrhotic condition of some of the glands, or else a fatty degeneration which is incompatible with healthy vigour. These conditions may be removed in their early stages, as well as all other morbid results which are not self-productive, if proper measures are taken to promote their removal. The first and most important step is the immediate and total abstinence from all kinds of alcoholic drink.

The principle upon which we propose to cure the habitual drunkard is to restrain him from the use of his liquor, so that he may entirely recover his health and his power of self-control. There are several stages in this process. First, his digestive power has to be restored: a very difficult and a very slow process. Then the deposits which have already taken place in his glandular system, his blood-vessels, and nervous centres, have to be removed, and altered membrane has to be restored. Simple food with healthy habits of body reduce the alcoholic saturation to a minimum, and enable the patient to get healthy digestive power.

The dyspeptic state must be cured before the alterations in glandular organs can be removed; they must do their duty properly before the nerve-tissue can be renovated; and, until the whole are restored, any return to alcoholic diet is followed by relapse. It is only by long-continued self-denial that cure can be effected. That I have not overdrawn the picture as to the condition of the nervous system and the seat of disease in such cases is shown very fully by Dr. Magan in his work on "Alcoholism," which has been translated by Dr. Greenfield. It abounds with instances which prove most clearly that the immediate action of alcohol is to dilate the capillaries of the nerve centres, increasing them to three or four times their ordinary dimensions, and thus paving the way for that atrophic degeneration which is frequently associated with other

changes in advanced states of alcoholism. The cases detailed by Dr. Magnan are very instructive; and, if taken in conjunction with others, in which, with similar symptoms, the microscope reveals changes which were formerly unsuspected, we cannot doubt at all as to cause and effect.

The hallucinations and delusions which accompany excess of alcohol even in young beginners, are associated with capillary dilatation; and, as a sequence, there is a pressure on nerve-substance which cannot be repeatedly renewed without the risk of subsequent atrophy or degeneration of one part or another of the tissue immediately affected.

Is it to be wondered at that cure in such cases is only to be obtained by long-continued treatment? Is it a fair objection to take to long-continued treatment, that relapses are common? Can relapse be considered a reason for not attempting cure; and is it to be endured that, with a knowledge of the capability of cure, we should not have power given us to attempt it, because the disease is said to be the result of a vicious habit?

An opinion was expressed to the Lords' Committee on Intemperance that dipsomania is a kind of epilepsy, and that its attacks correspond with the latter disease, I cannot think that there is any foundation for the idea, any more than that attacks of asthma, or any other recurring disease, may be epileptic. That dipsomaniacs often become epileptic is undoubtedly true; but many forms of disease tend to set up epileptiform attacks before a fatal termination arises. Epilepsy will arise in any kind of constitution; but drink-craving will only be induced in those who court its advent by taking excess of alcohol.

Another eminent physician, who agreed in the main with Dr. Brunton, expressed an opinion that habitual drunkenness may be cured by punishment; and that, if his victims were brought under the influence of good education, and some reasonable punishment inflicted, they might be trained to good habits. I do not think so, unless alcohol is rigorously withheld.

Some of the worst cases of dipsomania that I have met with have occurred in highly-educated individuals; and it is found, by overwhelming experience in the magistrates' court, that punishment has no deterring effect in preventing drunkenness in those who have been two or three times convicted, and who have lost their self-respect and power of self-control. The inconsistency of such an argument is seen at once; for such cases may be epileptic, and yet they are to be dealt with as criminals and punished accordingly.

It is true that, if the alcohol be withheld, the so-called "epileptoid attack" will not come on; for, like the so-called "sunstroke," it is in a great measure caused by the imbibition of drink; but it is not consistent with our ideas of justice to punish a man because he has had either of the conditions mentioned, which are undoubtedly diseases. The frequency with which the plea of sunstroke is urged as a reason for mitigation of punishment by the drunkard in the dock of a police-court is not a little remarkable; and, although I have never myself allowed that plea to be used in arrest of punishment in those cases in which the free will of the individual was manifest beforehand, yet it did sometimes avail when the individual was not a free agent. The plea set up has satisfied me that there is an intimate connection between the embolism which causes the so-called sunstroke and the alcoholic soaking in which the victims indulged. Like to outbursts of passion and to other vicious practices, there is an inability to exercise free will at first; but,

"Facilis descensus Averno,
Sed revocare gradum, superasque evadere ad
aureas,
Hoc opus, hic labor est."

The work and labour required to return to the right path are greater than most men, unaided by restraint, are able to use. The battery of nerve-force, in which free will and the higher orders of mental powers are produced, is damaged by the reagent, and is unable to set up those actions which are

required for the production of self-control and self-respect. Thus that which was a vice in its early stages becomes a disease later on in life.

The man who refuses to exercise his own self-control when he has the power, after a time becomes a nuisance and a scandal to society at large. He is slowly committing suicide, and is ruining the happiness, and probably the worldly prosperity, of his immediate relations. He ought to be deprived of his liberty to do wrong to himself and others, until such time as his tissues are restored to that state in which his power of self-control may be regained.

So far, the effect of alcoholic drinks seems to be for evil and not for good; and some persons ask very pertinently why they should be retained at all in the *Pharmacopœia* as therapeutic agents, when other stimulants might be used with as much advantage in those cases in which they appear to be required. But so powerful a means to evil, like every similar thing, may be used beneficially, if used aright. There are conditions of the body in which it performs a duty more satisfactorily than any other stimulant. It seems to preserve the body from decay, performing a vicarial duty, being sacrificed itself, and so saving the patient's life. It interferes with the normal changes which are required for the continuance of health, and retains the products of tissue-change in the blood; but in certain forms of disease, when the blood is rendered impure by the retention of those matters which should be excreted, if the retention have not been caused by alcohol, and great heat be developed in consequence of the combustion or oxidation of such matters, alcohol seems to take the place of those of the tissues which are oxidising; it lessens temperature and saves the fabric from death. This effect is seen most frequently in some zymotic forms of disease; there is a great tendency to sloughs and bed-sores, which tendency is materially diminished in those who have had alcohol administered, as compared with those who have not.

The therapeutic effects of alcohol,

when exhibited in certain typical forms of fever, are most marked. The cases which require it are those in which there are a dry tongue and skin, no sickness, and no indication of cerebro-spinal lesion. If there be any indication of the latter with a moist tongue, stimulants universally do more harm than good, because the tendency is then to increase the congestion upon which the lesion depends. When a case is benefited by alcohol, there are soon produced a lessened temperature, a slower pulse, a moister tongue, and a quieter condition of system generally.

In these cases, the effect of alcohol has to be most carefully watched, and the moment there is evidence of cerebro-spinal lesion or of alcoholic excess, its use must be discontinued. I have seen patients in serious danger, which has been brought about by the wine and spirits which have been too freely exhibited, rather than by the disease itself. There is something so utterly repugnant to all moral feeling for a medical prescription to be the instrument by means of which a man is sent *drunk* out of the world, that I need hardly insist in this assembly upon the necessity of watching for the probability of such a result. But, in those cases in which the remedy is beneficial, it may sometimes be freely pushed in a marvellous manner with most excellent results.

The cases in which the temporary administration of alcohol may be useful are those in whom the surface of the body has been chilled, and in whom the powers of life are weakened in such a manner that the heart is unable to do its work of propelling the blood to the capillaries with its usual ease. The action of alcohol in these cases acts something like the taking off the pendulum off a clock; the spring is able to work so much faster, and to get over an extra amount of beats in the same space of time. Internal congestion, irregular circulation, so to speak, fulness in one place, with unfilled cutaneous capillaries, are cases in which alcohol may be exhibited with immediate advantage. The tension of the capillaries being overcome, there is a diminution of the impediment to

the flow of blood, and, as a sequence, a possible diminution of the internal congestion. So, if the action of the heart itself be too weak to overcome the tension of vessels, we may induce a kind of vasor-motor paralysis to enable it to do its work more easily for the time being, and get over a passing difficulty in that way. How far it is prudent to push this vaso-motor paralysis for any length of time is another matter, as a continuance of it must lead to the first stages of tissue-change, which then becomes itself of primary importance.

There is a class of persons to whom alcohol may be useful even in comparative health. When the powers of life begin to decay, when the force of the heart is not enough to transmit the blood to the extremities of the body, and the aged person feels the influence of cold, the blood scarcely passes through the unfilled cutaneous capillaries; by dilating them and diminishing their tension the heart is relieved, and the functions of the skin and other organs are more efficiently performed. A moderate dose of alcohol taken with food is always beneficial to an old person under such circumstances, and I cannot see any reason why it should not be administered. Again, there are conditions sometimes present in youth in which alcoholic drinks also are useful; no other kind of stimulant acts so equally and so satisfactorily; there are a few cases—and a very few only—in which they may be administered in middle age; taken as a whole, a weak heart with unfilled cutaneous capillaries will be always found in those cases in which it is likely to be beneficial. The stethoscope most clearly reveals them, the impulse of the heart and the general rhythm of the pulse not at all corresponding.

So long as alcohol is taken only in such quantities that it becomes utilised at once in the equalisation of animal heat, no harm can result; but if there be more than sufficient to do this, and its specific action be produced on the blood itself, mischief sooner or later results. In this it differs from fat, with which it seems to be allied as a diet, which, if not used up, may be stored

in its proper place out of the way, but the changed matter which arises from an excess of alcohol is always stored in the tissue of an organ. Thus its effects may find a home in the capillaries themselves, interfering with their elasticity, or it may be laid down in muscular tissue, and there is then a decrease of power and so called rheumatic pains are produced. If nerve-tissue be the seat, there is interference with the power of thought, with volition, self-control, and other mental actions, the effect of which is to render the patient a weak-minded and unstable character. In a state of health, it does not prevent the waste of tissue, whilst it does prevent the discharge of effete products. There is a decrease of the formation of carbonic acid, and in this is probably found the reason why there is a decrease of temperature. It stands in the way of more beneficial actions unless it be at once used up. If there be no muscular exercise going on, or no extra mental labour called for, and no action at all required except that which keeps up temperature to a normal standard, it is hurtful; work which is kept going by continual doses of alcohol always ends in a break-down. If it be taken for the purpose of increasing muscular exertion, ultimately there is great loss of muscular power, as athletes well know. If mental exertions be kept going by alcohol, there is mental break-down, as the lunatic asylums testify; whilst it is quite impossible for organic life to be performed in a healthy manner if alcohol be habitually used to promote digestion. The evidence which was afforded by the Abyssinian and Ashantee campaigns, and the Arctic expedition, help to prove this, whilst the unanimous opinion of those who are competent to judge informs us that, in the Russo-Turkish war, the temperance of the Turkish soldiers enabled them to bear injuries with impunity, whilst similar injuries easily caused the Russians to succumb.

It has been argued by some experts that it is unwise to leave off alcoholic drinks at once; that it is better to do it by degrees. I never could see any reason for this. The experience of

all gaol surgeons is in accord with my idea, that no evil, but real good, results from immediate and total abstinence. I am satisfied that when mischief is arising from its use, it is best to immediately desist from it. If mischief then result, it is because it had already commenced, and not from the abstinence; although when a man has been accustomed to his daily dose of alcohol for a long series of years, and his constitution has become acclimatised without evidence of tissue-change, he should not abandon its use. I could not advise an old man to give it up; such a change would certainly do harm, not good.

I cannot leave the subject of nerve-disturbances produced by alcohol without referring to the connection which exists between intemperance and crime and lunacy. Statistics are not to be depended upon, because they are not drawn up with scientific accuracy, neither are they usually based upon similars. Yet there are some facts which are something more than coincidences. There is an undoubted increase in the consumption of alcohol per head of the population. The report of the select Committee of the House of Lords on Intemperance tells us that the consumption per head in the United Kingdom of the following articles in 1876, as compared with 1861, had increased.

	1861.	1876.
British spirits ...	0·68 gals. ..	0·91 gals.
Foreign spirits	0·18 „ ..	0·35 „
Wine	0·37 „ ..	0·57 „
Malt	1·61 bus. ...	2·02 bus.

The increase year by year was progressive.

The same progressive increase was observed with regard to crime.

	1861.	1876.
Committals for drunkenness ...	83,196 ...	203,986
Committals for assaults ...	85,448 ...	122,913

There is also a rise in the number of lunatics which the increase of population does not account for. In 1861, there were 39,645 under the supervision of the Lunacy Commissioners;

whilst in 1875 they had increased to 63,793; and out of thirty-nine medical attendants of lunatic asylums who were consulted by Canon Ellison, thirty-two replied that, in their opinion, there was a distinct connection between an increase of drinking and lunacy as either cause or effect.

The Chief Inspector of the Metropolitan police shows us that 251,125 persons were charged at the various police-courts in the Metropolis with drunkenness in the ten years ending 1876. That more than a quarter of a million of persons had within ten years recklessly thrown away their liberty of action in the eyes of the public, by rendering themselves slaves to a vicious habit, is a fact which must make men thoughtful as to the future of four people.

The poisonous nature of alcohol in large and continuous doses has never been doubted, and no one can study its effects on the death-roll of this country, or read Dr. Magnan's work on Alcoholism, without being thoroughly satisfied on that point. Dr. William Farr, in his supplement to the thirty-fifth annual report to the Registrar-General, tells us that those who supply the community with drinks, food, and entertainment in inns and beerhouses are shown to suffer more from fatal disease than any known class. He says also that the majority of the publicans and the greater part of the wine merchants are comparatively temperate; yet, as the mortality of the whole trade is high, the mortality of the intemperate among them must be excessive. In the same report, the deaths amongst those engaged in the sale of stimulants is returned at 2,538 out of 74,367 persons so occupied, which gives a death-rate of 30·4, whilst 1,988 blacksmiths are registered out of a gross total of 108,939, a death-rate of only 18·2 per 1,000; that of men in all industrial occupations was 19·9. The report tells us not only that the poisonous effect is undoubted, but that the effect is progressing in an increasing ratio. Thus we find that in the year 1857, 323 deaths were reported in which the verdict of a coroner's jury was

death through excessive drinking; in 1875, the number had increased to 516. It also tells us that, whilst in 1857 294 deaths were directly attributed to intemperance, 569 were so registered in 1875. The deaths from delirium tremens also reached the number of 485. Thus in one year, 1875, we actually have 1,566 deaths, in England alone, directly caused by alcoholic poisoning—not one-hundredth part of those which are hastened by alcohol. But supposing 1,566 deaths had occurred from hydrophobia or serpent bites, or had happened to passengers on the railways in the kingdom, commissions and edicts and proclamations from Privy Council would have been issued, and Acts of Parliament would have been rapidly passed to provide against the continuance of this wholesale slaughter. No so, however, with the poison of alcohol; it works its way, in a great measure unheeded by the Legislature, except so far as it is made to be a means of increasing the sale of the poison itself.

I have endeavoured to prove the truth of the proposition by statistical data obtained from the Registrar-General's publications, attested by the returns of the Census Commissioners; but, unfortunately, they did not refer to the same districts and are not based upon exactly the same foundation, so that the data do not correspond. There are, however, some striking points made out. Thus taking the "England Tables," the mortality in the year 1871 among ministers of religion was 666; of these, 464 lived to be over forty-five years of age, or 69 per cent. Taking the number of deaths among gardeners—men much exposed to vicissitudes of climate—1,949 died; and of these, 1,335 or 68·2 per cent lived more than forty-five years. Then passing to the other end of the death-roll, I find, out of 725 brewers who died in the same year, 294, or 41 per cent., only reached the age of forty-five; and of 2,728 publicans and eating-house keepers who died, 49 per cent., or 1,330, were over forty-five. These facts show that the occupations which bring men into

contact with the sale of alcoholic drinks materially shorten their lives.

When we come to deal with the character of disease which causes death statistics do not help us. I have waded through an immense mass of figures without satisfactory result; for upon this point statistics prove nothing. A reference to the physiological effect of alcohol will easily explain why this is so. I have shown that its effects may fall upon any one of the excretory organs or upon any part of the nervous system. It follows that a very large number of persons may die from disease induced by a too-frequent application to alcoholic drinks without the remotest suspicions in the minds of themselves or their friends that such is the case. Disease of brain, heart, lungs, kidneys, stomach, indeed of every organ of the body, may have its first origin in alcoholic excess, although the person so affected may be a temperate man and have never been drunk in his life. I have, therefore, been reluctantly compelled to put statistics aside. I have also looked carefully into the reports of the National Temperance Hospital, and have compared it with reports of similar institutions in which stimulants are freely used; but as the results, as based upon the reports, are fairly open to objection, I do not use them here. The difficulty of obtaining the life-history of a given case renders all hospital returns unsafe and unsatisfactory as bases upon which to found a basis for the treatment of disease. That temperance does promote length of life is a truism which even the intemperate are ready to grant, although we have not much statistical proof of its soundness. I may, however, support my statement by a return which has been kindly given me by a director of the Temperance Provident Life Office; being a statement of mortality from 1866 to 1877. The insured are divided into two sections; teetotal and general. The temperance section gives, as the result of twelve years' working, 1,619 claims expected, the actual number being 1,156; whilst in the general section, 2,846 claims were expected,

2,807 were made. The claims in the temperance section were 28·5 below the expectation, whilst in the general section they were 1·4 per cent. below only. This return is a clear proof of the commercial value of abstinence.

In concluding my subject, I have

only to remark that alcohol in any of its forms may be a good medicine, but is a bad diet, and that its action as a poison is visible among all ranks of society. It is our duty as medical men to advise our patients accordingly.



TREATMENT OF HÆMORRHAGE WITHOUT ALCOHOL.

WE have given, at page 170, a paper on this subject by Dr. G. K. Poole, which was read before the South-Eastern Branch of the British Medical Association on March 14. After the paper had been read, a short discussion took place, of which the following report is given in the *British Medical Journal* :—

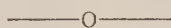
Dr. GALTON considered that the bleeding, in cases of surgical hæmorrhage, was not comparable with that from the uterus, where the arrest was due more to the muscular contraction, than to clotting in the vessels. He should expect more good from alcohol in stimulating muscular contraction, than harm in preventing clots from forming. With reference to the scrotal elephantiasis, operation by Sir Joseph Fayrer's method would have prevented the hæmorrhage, as he (Dr. Galton) had proved in seventeen cases, in the largest of which (weighing fifty pounds) little more than two ounces of blood were lost.—Dr. PARSONS SMITH said that the stimulant was not used to arrest hæmorrhage.—Dr. COLES thought we were often too meddlesome in midwifery. He questioned the absorption of alcohol in syncope, and agreed with Dr. Poole that nature's own remedy was fainting.—Dr. BRAXTON HICKS said that all must have thought whether stimulants were useful in *post partum* hæmorrhage. There were two points as to its arrest: 1. The contraction of the uterus; 2. Coagulation of the blood. The first depended upon whether alcohol increased the vital powers of the nerve. He doubted the

increased action of the heart under alcohol; in large quantities, it certainly lessened it. In large doses it checked uterine contraction; in small, it probably did good. People who did not faint with hæmorrhage came to grief.—Dr. LANCHESTER considered the question from two points of view:

1. When hæmorrhage was going on;
2. When it ceased. It the first, we should be trying to arrest the hæmorrhage instead of giving stimulant. In the second, he thought stimulant helped to keep up action of the heart after injecting perchloride of iron.—Mr. SIDNEY TURNER thought we should stop hæmorrhage before considering alcohol. In the first case mentioned by Dr. Poole, the hæmorrhage ceased after removal of the placenta. He had seen the worst syncope in a case of no hæmorrhage, but large thin uterus.—Dr. BRAXTON HICKS said that secale was the best remedy for this.—Dr. JEAFFRESON was of opinion that the extreme bloodlessness of approaching death was attended by contraction of unstriped muscular fibre. In pig-killing, as a final phenomenon, the animal passed urine.—Dr. HOLMAN considered the question as one of "experience, luck, and pluck." Having lost cases of hæmorrhage, he had not the pluck to stand by and see a patient faint to death. He had observed under stimulant a pulse of 150 come down. Often, not letting a patient die would depend upon moderate stimulation.—Dr. BRAXTON HICKS asked whether any one had tried subcutaneous injection of sulphuric ether.—Dr. MILLER thought there

were two points to be considered: 1. The whole profession had abandoned the excessive use of stimulants: 2. Alcohol was the only remedy often at hand, and the objection against

its non-absorption would apply also to beef-tea.—Dr. POOLE was still unconvinced. He considered that alcohol did not act upon the uterus.



THE BRITISH MEDICAL TEMPERANCE ASSOCIATION.

THE second annual General Meeting of the above-named Association was held on Thursday evening, June 6, at 8, Grafton Street, Piccadilly, at the kind invitation of the President, Dr. Edmunds.

The President being unavoidably absent at the commencement of the proceedings, Dr. Norman Kerr was called to the chair.

The SECRETARY (Dr. Ridge) then proceeded to read the second annual report, as follows:—In presenting the second annual report of the British Medical Temperance Association to the members, the council have much pleasure in recording a decided advance in the treatment which the question of total abstinence has received among medical men. Several of its members have from time to time had opportunities of testifying to the value of the non-use of alcohol both in disease and health, at various meetings of medical societies and privately at consultations. They are sure that the fact that so many practitioners are able to treat so many and such severe diseases without alcohol, and yet with success, is calculated to shake the faith of those who have considered the free employment of alcoholics as an indispensable condition for success.

It is, therefore, greatly to be desired that every exertion should be put forth to increase the membership of the Association, in order that it may be possible to take a more public position with the prospect of influence; the council hope that every *de facto* abstaining medical man will unite with those like-minded in order to co-operate in the furtherance of our principles.

During the year four fresh members have joined the Association, and two gentlemen have withdrawn, leaving a total of thirty-eight members—a nett increase of two.

The statistical forms have been issued quarterly, and thirty-nine papers have been returned filled up. The following are the figures, which have been supplied by gentlemen who treat their patients non-alcoholically, though not bound to do so by any rule of the Association:—

		Cured.	Died.	Total.
No. of cases of—				
Post-partum hæmorrhage	...	8	—	8
Important surgical operations	...	2	1	3
Compound fracture	...	4	—	4
Smallpox	...	28	7	35
Measles	...	156	4	160
Scarlatina	...	62	2	64
Diphtheria	...	35	3	38
Typhus fever	...	7	—	7
Enteric fever	...	24	1	25
Erysipelas	...	49	1	50
Carbuncle	...	7	—	7
Rheumatic fever	...	53	—	53
Delirium tremens	...	31	—	31
Acute pneumonia	...	32	4	36
Infantile bronchitis	...	299	18	317

These added to the returns of the previous nine months give the following results:—

		Cured.	Died.	Total.
No. of cases of—				
Post-partum hæmorrhage	...	23	—	23
Important surgical operations	...	23	1	24
Compound fracture	...	5	—	5
Smallpox	...	50	9	59
Measles	...	428	13	441
Scarlatina	...	207	6	213

	Cured.	Died.	Total.
Diphtheria ...	87	8	95
Typhus fever ...	19	—	19
Enteric fever ...	62	4	66
Erysipelas ...	95	1	96
Carbuncle ...	16	—	16
Rheumatic fever ...	128	—	128
Delirium tremens ...	52	1	53
Acute pneumonia ...	83	6	89
Infantile bronchitis ...	564	29	593

The returns of obstetric practice give the following results:—

	Abstainers.	Non-abstainers.	Total.
Total No. of labours...	51	204	255
No. of cases of—			
Post-partum hæmorrhage ...	3	5	8
Powerless labour ...	—	11	11
Rupture of uterus ...	—	—	—
Febrile attacks within four weeks ...	—	8	8
Maternal deaths ...	—	—	—
Deaths of live-born children ...	2	—	2

Adding these to the previously-obtained numbers we have:—

Total No. of labours...	142	488	630
No. of cases of—			
Post-partum hæmorrhage ...	5	18	23
Powerless labour ...	1	41	42
Febrile attacks ...	—	27	27
Maternal deaths ...	—	1	1
Deaths of live-born children ...	2	7	9

The returns of deaths are as follows:—

Total number of deaths ...	104
Deaths of which intemperance is certified as primary cause ...	...
Deaths of which intemperance is certified as secondary cause ...	0
Deaths to which intemperance is believed to have contributed ...	15

Adding these again to previous returns, we have:—

Total number of deaths ...	232
Deaths of which intemperance is certified as primary cause ...	11
Deaths of which intemperance is certified as secondary cause ...	7
Deaths to which intemperance is believed to have contributed ...	53

The council have been making an effort to induce a thoroughly competent gentleman to undertake the investigation of certain obscure points respecting the physical action of alcohol. They regret to say that this effort has hitherto been unsuccessful, but they hope that the difficulty may yet be overcome.

The council have reason to believe that the declaration of total abstinence which members are required to sign by the constitution, has been viewed by some as a pledge, and that they have thereby been deterred from joining the Association. The council therefore recommend that this formal method of declaration shall henceforth be omitted in accordance with a proposed amendment of the constitution, which will be submitted. They also suggest that the annual subscription should be in future five shillings, and they propose that registered medical students, who are total abstainers, should be enrolled as associates, and pay an annual contribution of two shillings and sixpence.

In conclusion, the council beg to express their thanks to those members who have furnished information and materials for the statistics, and are anxious to receive any suggestions for future work, and any medical evidence which may be suitable for publication in the journal, or otherwise.

This report having been adopted, the balance-sheet was presented, as follows:—

DR.		£	s.	d.
By balance in treasurer's hands ...	...	8	4	1
By annual subscriptions, 1877-8 ...	...	18	7	6
By annual subscriptions, in advance, 1818-9 ...	...	1	11	6
		£28	3	1
CR.		£	s.	d.
To expenses of first annual meeting ...	...	2	15	0
To printing ...	...	0	11	6
To Medical Temperance Journals ...	...	2	14	4
To postage ...	...	0	15	10

To stationery	...	...	0	5	0
To balance in hand	...	...	21	1	5

£28 3 1

Compared with vouchers and found correct,

CHAS. JAS. RUSSELL, M.D., }
JOHN DIXON, } *Auditors.*

The Chairman then declared that only the former officers of the Association had been nominated for the ensuing year, according to the constitution, and that therefore the following were again in office:—

President.—James Edmunds, M.D., M.R.C.P., 8, Grafton Street, Piccadilly, W.

Vice-Presidents.—Robert J. Lee, M.A., M.D., 6, Savile Row, W.; J. McCulloch, M.D., Dumfries; H. Munroe, M.D., Hull.

Secretary.—J. J. Ridge, M.D., B.S., B.A., B.Sc. Lond., Carlton House, Enfield, Middlesex.

Council.—H. Branthwaite, F.R.C.S. Ed., Willesden, N.W.; G. B. Clark, L.R.C.P., Scotland; J. Gill, M.D., Newton Abbott, Devon; Norman S. Kerr, M.D., Grove Road, Regent's Park, N.W.; G. B. Longstaff, M.B., M.A., Wandsworth, S.W.; Surgeon-Major G. K. Poole, M.D., Norwood, S.E.; H. W. Williams, M.D., Fulham Road, S.W.

The two auditors for 1877-8 were reappointed, subject to their consent being obtained—namely, C. J. Russell, M.D., Messingham, Lincolnshire; and J. Dixon, M.D., Hackney.

The following alteration of the constitution was proposed by Dr. Ridge in accordance with the notice which had been given:—

“That Article III. be amended to read thus:—Registrable medical practitioners who are total abstainers from alcoholic beverages may be admitted as members on payment of an annual subscription of 5s.; their names to be added to or removed from the roll according to the by-laws. Registered medical students, being total abstainers, are eligible as associates on payment of two shillings and sixpence per annum.”

Dr. RIDGE said that he knew of

several instances in which gentlemen had been deterred from joining the Association through misapprehending the nature and purpose of the declaration hitherto required, and he considered, therefore, that it would be desirable, while retaining the condition of total abstinence, to alter the rule so as to enable these gentlemen to enter. He had received several expressions of approval of the change, and also of the proposed work among medical students.

Drs. BRANTHWAITE and POOLE expressed themselves in favour of the alteration, which was carried unanimously.

A vote of thanks was proposed to the chairman, and the proceedings of the business meeting terminated, the members adjourning to join the other guests invited to meet them by the president, Dr. Edmunds.

After receiving the visitors, and affording an opportunity for conversation, Dr. Edmunds delivered an address, in which he spoke upon the progress of the Association, and gave an interesting *résumé* of the facts which had been elicited by the London Temperance Hospital and the United Kingdom Temperance and General Provident Institution. Having concluded his address, he said it afforded him much satisfaction to have among them the eminent surgeon, Mr. Spencer Wells, who had kindly promised to say a few words to them on the subject.

Mr. SPENCER WELLS, F.R.C.S., said that there could not be a more interesting experiment than that being made at the London Temperance Hospital. During the past few years there had been a great diminution in the amount of alcohol administered in the London hospitals. Twenty years ago the quantity of wine and spirit to be administered was often left to the discretion of the nurse. It was only lately that they had begun to regard these things in their true light—as drugs, and not as food. And they could all bear out what Dr. Edmunds had said, that the more strictly this plan had been carried out the greater had been their success. Formerly it had been the custom to administer

some stimulant immediately after every operation as a matter of course, under the idea that the patients must be suffering from shock, and therefore needed to be roused; but now, after very severe operations, he would not think of giving brandy unless there were some special indication, certainly not as a matter of routine. And this practice would spread, the example set in the Temperance Hospital having considerable weight. The dangers connected with the use of alcohol could not be over-estimated, but the possibility of entirely doing without it as a medicine could only be determined by large statistical results, which he hoped in time would be forthcoming.

Dr. BANTOCK said he was utterly unprepared to make a speech, but as he had been called on by his colleague Mr. Spencer Wells to confirm the statement of the worthlessness of alcohol after operations, he had much pleasure in stating his experience to that effect. For many years he had avoided the use of alcohol recently after operations, and he had never had cause to regret having done so. It might, in certain cases, be useful during convalescence, but not at first. He had, moreover, had cases in which the condition of the patient was such that alcohol would have been considered necessary by all, and yet these had made the most extraordinary recoveries without it. With such experience he could not avoid the conclusion that whether alcohol were injurious or not, at any rate it was not necessary.

Dr. JOHN RAE was educated where it was the fashion to give much alcohol, and he was only led to abandon this as a result of his experience. Among his first Arctic experiences was this, that he had charge of a crew of whom half were attacked with scurvy, and he found that these were all the men who had used the least alcohol, and the severity of the disease was in proportion to the amount which had been taken. He had been confirmed in this view by much subsequent experience, and he could assert most positively that total abstinence was the right practice for those who had

to be exposed to excessive cold. He traced the failure of the late Arctic expedition to scurvy, and this to the use of alcohol and deficient use of anti-scorbutics when most required. As there were now a sufficient number of totally abstaining officers and men to man two or three ships, he hoped that the Admiralty would man at least one in this way; it would be a safe ship for any sailor who showed a tendency to intoxication, and the experiment would be made as to whether it was advantageous or not.

Mr. FROOME TALFOURD could corroborate Dr. Rae's remarks as to the harmfulness of alcohol in extreme cold. He had been thirty-eight years in the Hudson's Bay territory, and during the last ten superintendent of the Indians there. Every case of death from cold which he had known had been due to the use of alcohol. Even those who took it in the summer learnt that it was absolutely necessary to avoid it in the winter.

Surgeon-Major POOLE had been twenty years in charge of troops in India, and could testify that he had found sickness, especially cholera, more rife and more fatal among Europeans than among the abstaining natives, and more fatal to those Englishmen who drank than to those who did not. The tendency to liver disease among Europeans was chiefly produced by the use of brandy.

Admiral BAILLIE HAMILTON entered the navy just after the close of the French war, and comparing the navy such as it had been with what it was now he could scarcely believe himself to be the same person. There had been a vast improvement in the sobriety of the men, and this had been greatly promoted by the reduction of the grog ration to one-half, and the addition of an allowance of tea, which changes he felt thankful to have been the means of producing after a tough fight when in office at the Admiralty.

Mr. SIBLEY, F.R.C.S., had considerable sympathy with the total abstinence movement; he was sorry that his brother, a civil engineer, who had spent many years in India, was not here to testify in person to the possi-

bility of total abstinence, since he was a man of great physical strength and power of endurance.

Mr. A. M. SULLIVAN, M.P., had come to hear rather than to speak. He had been an abstainer from the moment of his birth, some forty-eight years, and he asked their forbearance when he said that it had not cost him half-a-crown for medicine all the time; he thought he could see the cause and effect. He considered that the medical profession were bound to take some steps to undo the harm which they had done in the past by the recommendation of so much stimulant, and hailed with pleasure the institution of the British Medical Temperance Association.

Dr. HARE said that he fortunately had commenced practice, and was a hospital physician before the great "Toddean" fever broke out. When it was at its height he remembered with some pride that he had often warned his pupils against being carried away by it, and had said he was sure that the pendulum would some day swing in the opposite direction, and that they would see it if he did not; he was very glad, however, that he had lived to do so.

Mr. B. WHITWORTH, M.P., and Mr. G. PALMER, M.P., proposed and seconded a vote of thanks to Dr. Edmunds, which was carried unanimously.



HABITUAL DRUNKENNESS AND INSANITY.

By Sir JAMES COXE, M.D., F.R.S.E., F.R.C.P.E.,

Commissioner in Lunacy, Scotland.

UNQUESTIONABLY it may be a matter of the most serious import to an alleged lunatic and his family that he should be placed under control and prevented from squandering his means, whether through inattention to business, profuse expenditure, or absurd speculations; and it is from considerations of this kind that the State has been frequently urged to exercise control over the actions of those who are unable to resist the craving to indulge to excess in intoxicating liquors. Hitherto, however, the State has persistently declined to regard such loss of self-control as equivalent to lunacy, and the detention of persons of this class as lunatics accordingly becomes illegal as soon as a sane state of mind has been regained through abstinence from intoxicating drink. Many medical men hold this decision to be wrong, and are of opinion that an habitual drunkard, although rational for the time being, through compulsory abstinence, is yet not a fit person to be allowed his liberty or permitted freedom of action; and every one who has witnessed the distress and misery

which the presence of an habitual drunkard in a family produces, cannot fail to feel much sympathy in this opinion. Still, so long as the State declines to recognise the condition of an habitual drunkard, restored to temporary sanity by abstinence from drink, as one of insanity, the medical profession can scarcely be allowed to take the law into their own hands and include this condition within the meaning of those terms with which the statutes define lunacy. It appears, however, that, in practice, not only dipsomaniacs, but also patients affected with other forms of insanity, are occasionally detained in asylums for considerable periods after they have recovered their sanity, in the belief that their discharge would speedily be followed by a relapse; and a great deal may be said in favour of this course. It must frequently be of the utmost consequence to a family that its head should be prevented from gambling or squandering his means; but, on the other hand, there must be a limit to the paternal care of the State, and if a man has not the

wit to take care of his own interests, but gives way to inordinate drinking, inordinate sexual indulgence, or to reckless gambling, there is not in that, so far as the State has yet determined, sufficient cause for its interference. There is, however, reason to think that the meaning of the statutory terms of lunacy has of recent years been considerably extended, and that a belief is pretty widely held that forms of thought and feeling that were formerly regarded as mere eccen-

tricities or absurdities of character, are now frequently dealt with as insanity. And thus it may follow, by a further expansion of men's views in this direction, without any special interference on the part of the Legislature, that habitual indulgence in intoxicating liquors, or habitual indulgence in immoral excesses, will eventually come to be dealt with as insanity.—*Lunacy in its Relation to the State*. (London: Sampson Low & Co.)

Notes and Extracts.

AN INSANE REMEDY FOR AN INSANE PATIENT.—For male lunatics suffering from insomnia, with excitement, Binz recommends beer to be given at night in doses of one or two quarts, and drunk in the course of an hour to an hour and a-half.—*The Doctor*.

ALCOHOLIC AMAUROSIS.—Dr. Arens (*Centralblatt für Heilkunde*) reports the case of a man, thirty years old, in other respects always healthy, who awoke one morning totally blind in both eyes. The patient himself regarded a three days' excessive indulgence in alcohol as its cause. The eyes were widely opened, fixed; the pupils were dilated and immovable; the ophthalmoscopic appearances were normal. The pulse was frequent, soft; the heart was normal. Sensibility and motility were intact in all the extremities. Large doses of Hunyadi János water, rest, diet, and cold water compresses on the head for four days, completely restored the vision.—*British Medical Journal*.

THE MEDICAL PROFESSION AND TEMPERANCE.—The *New York Medical Record*, in an article on "The Relation of the Medical Profession to the Temperance Movement," says:—"There is perhaps nothing more powerful in the way of an argument

against the use of any article than that it is injurious to the health, more especially if such an opinion comes from a medical man. In public and in private the physician doubtless can do much good in framing opinion in such directions, and can very effectually supplement the labours of temperance lecturers and reformers generally. That he often neglects this duty is evident to every one. In fact, not a few physicians, by the loose practice of prescribing alcoholic drinks, actually create in their patients a habit for strong drink which in too many cases is beyond control."

WORKHOUSE STIMULATION.—A committee appointed by the Stamford Board of Guardians to inquire into the consumption of alcoholic liquors recommended in their report:—"1. That in cases where the medical officers think it necessary to continue such extra diet or stimulants, they be requested to renew their recommendation at least fortnightly, and to report to the Board of Guardians their special reasons for such continuance. 2. That in cases of permanent disability no order for stimulants out of the workhouse shall hold good for a longer period than two months, after which it will be renewed only by order of the Board of Guardians. 3. That the

medical officer be requested to make a special report to the Board of Guardians of every case where extra diet is given not medicinally, but only by way of extra support on account of age or infirmity. 4. That stimulants for the use of the workhouse officials be discontinued, and an allowance made them in lieu thereof; also that the medical officer be requested to discontinue, as far as possible, the use of stimulants for paupers." These recommendations were considered at a meeting of the board on the 29th April, and were passed unanimously.

A CANADIAN MEDICAL TESTIMONY.—Dr. Dickson, superintendent of the Rockwood Insane Asylum, in Kingston, is a gentleman of age and large experience, and stands high in his profession as a medical man. He has given much attention to the effect of alcohol on the human system, medical and otherwise, and his opinion of its merits is therefore of much importance. In regard to the use of alcohol as a medicine in his practice Dr. Dickson writes:—"Alcohol, whether given in the form of beer, wine, or whisky, has in every case the same destructive tendency. I am well aware that some physicians claim a power for alcohol which it does not possess. They prescribe it as a restorative, and assert in wasting diseases it is useful in arresting or preventing waste of tissue, neither of which effects I am positive it possesses, and for these purposes it is perfectly futile to prescribe it. I am quite sure that in a state of health there is not a single organ or tissue of the body that derives any benefit from its use, and quite as positive that it is a most destructive agent to every organ and tissue of the body, either in a state of health or disease. Most mistaken ideas have long been entertained of the efficiency of alcohol in many diseases of the system and its general effects on the human body, but actual experiments have convinced several of the ablest and most profound thinkers in the medical profession that it has always and in every form proved itself to be the most pernicious agent that was ever employed—medi-

cinally or otherwise. Being, therefore, satisfied that its use in a state of health is never necessary, and in a state of disease it is most injurious, I have for years past abolished its use in this asylum."—*Canada Casket*.

CHLORODYNE.—"Permit me," says a correspondent, "to call attention to a medicament called 'chlorodyne,' extensively advertised, and largely consumed, which is fast becoming a curse to great numbers of persons, especially ladies, by creating a condition analogous to alcoholism. This compound called 'chlorodyne' contains opium, Indian hemp, chloroform, peppermint, and other things, as treacle. It is a *most insidious and dangerous preparation*, producing the pleasurable sensations of alcohol, and, like it, leading to increased doses, insatiable cravings, false excitement and corresponding depression, moral obliquity, and shipwreck. I would respectfully, yet most strongly and earnestly, urge all philanthropists to join in discouraging the use of this preparation or nostrum—compared with which the host of pills and potions of various kinds are harmless. The danger from 'chloral' (the recent substitute for opium), though considerable, is far less. While I write I have in mind more than one instance of fair prospects destroyed and ruin to soul and body through chlorodyne. As to benefit from its use in coughs, diarrhoea, &c., no person would find difficulty in obtaining analogous preparations *in a few doses*, either from prescriptions or from the various dispensers of medicines. It is one thing to apply for *remedies*, and quite another to purchase a dangerous mixture like chlorodyne, spread broadcast over society, everywhere creating and sustaining a false and degraded appetite."

CONTROL OF DIPSOMANIACS.—The first Annual Report of the Society for Promoting Legislation for the Control and Cure of Habitual Drunkards shows excellent progress in a short space of time. The Society was only organised in September last, Dr. A. Carpenter in

the chair. Already they are able to report that, taking for their guidance the Report of the Committee of the House of Commons (1872) on Habitual Drunkards, the late Mr. Donald Dalrymple's Bill founded on that report, and the various Acts already in operation in America and Australia, after considerable labour and expense, with the assistance of counsel, a Bill has been framed. Provision is made in this measure for receiving habitual drunkards into retreats, upon request, to be attested by a justice of the peace or a commissioner for affidavits, or upon an order of justices on the application of friends in a proper case. A Bill with such provisions was introduced by Dr. Cameron, M.P., last session, but too late for the second reading. This year Dr. Cameron has again introduced a Bill, and has secured July 3rd for the second reading. It is the first on the list for that day. The Committee hopes that all interested in this important question will do their utmost to urge upon all members of Parliament within their influence the necessity for such legislation. Petitions have been presented to both Houses of Parliament in favour of this legislation—namely, 85 to the House of Lords, containing 5,512 signatures; and 103 to the House of Commons, containing 7,008 signatures, including numerous church dignitaries, medical men, gaol authorities, clergy, and members of various temperance societies. Petitions have also been presented by other bodies.—*British Medical Journal*.

LONDON TEMPERANCE HOSPITAL.—The Annual Meeting of this Institution was held at the Memorial Hall, Farringdon Street, on Thursday, May 30, under the presidency of Lord Aberdare, who said he believed the Temperance Hospital was trying an experiment of the highest value, and that hundreds like himself were watching its career with great attention, and he most heartily wished it every success. The Rev. Dawson Burns, honorary secretary, read the annual report, from which we give the following extracts:—"The year's proceedings have in all

respects been confirmatory of the conviction derived from previous experience, that the non-alcoholic principle of treatment is as scientifically sound as it is morally safe. The in-patients' department has received 130 persons, making a total of 585 in-patients since the opening of the Institution four and a-half years ago. The out-door patients have numbered 1,272, making a total of 5,478 in the same period. Of the in-patients for the year, 70 were males and 60 females; 85 had been abstainers and 45 non-abstainers; 99 had resided in the metropolitan district and 31 in the country. The medical and surgical cases of a severe and serious type have been quite equal to the average proportion in other hospitals, and such as according to traditional usage would have been treated with a liberal supply of alcoholic liquors; but the absence of these has not been considered by the visiting physicians to have been attended with any disadvantage, but to have conduced to recovery, or to an abatement of disease." Mr. John Hughes, the treasurer, read the general account of receipts and expenditure, which showed that the receipts for the year ending March 25, 1875, were £1,927 6s. 11d.; 1876, £1,835 1s. 4d.; 1877, £1,804 7s. 11½d.; and 1878, £1,759 8s. 8d., showing a falling off in the past year of £44 19s. 3½d. as compared with the previous year. The total expenditure for the same four years had been—in 1875, £2,037 15s. 10½d.; 1876, £1,673 12s. 10½d.; 1877, £1,814 8s. 7¾d.; and 1878, £1,563 19s. 5¾d., showing a reduction in 1878 as compared with 1877 of £250 9s. 2d., which had been effected without impairing the efficiency of the Institution or reducing the number of the patients. The treasurer stated that the death-rate had not exceeded four per cent., and that an additional £10,000 was required to put up the first section of the new hospital. Up to the 30th April, the total contributions (with interest) to the Building and Extension Fund amounted to £17,387. The meeting was addressed by Cardinal Manning, Dr. James Edmunds, Dr. Norman Kerr, Dr. G. B. Longstaff, and others.

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CONTENTS.

ORIGINAL CONTRIBUTIONS.

	PAGE
An Inaugural Address	145
Alcohol in The Workhouse	67
Another Medical Opinion on Alcohol	17
British Medical Temperance Association	172
Dr. Bucknill on Drunkenness	23
Dr. William Farr on Alcoholism	I
Dr. Timms on Alcohol	113
Mortality from Alcohol	60
The Bark Cure	162
The <i>Contemporary Review</i> on "The Alcohol Question"	49, 107
The Drink Problem—An Inductive Inquiry	97
The Habitual Drunkards Act	169
The Habitual Drunkards Bill	11
The Temperance Breakfast at Bath	62

MISCELLANEOUS COMMUNICATIONS.

A Workhouse Infirmary Experience	197
Alcoholic Treatment of Neuralgia	199
An Irish Physician on Moderate Drinking	137
British Medical Temperance Association	174
Chronic Alcoholism	44
Further Medical Evidence before the Select Committee on Intemperance	41
On the Symptomatology of Alcoholic Brain Disorders	34
On Alcohol for the Unhealthy	114
Pathological Condition in Inebriety	46
Strong Drink in Workhouses and Hospitals	141
Temperance <i>v.</i> Abstinence	128
Temperance in the Treatment of the Sick	189
The Alcohol Question from Sir James Paget's point of view	89
The Habitual Drunkards Bill	130
The Lords' Committee on Intemperance, and the Medical Evidence	193
The Lords' Committee on Workhouse Drinking	138

	PAGE
The Medical Meeting at Bath	24
The Mortality from Intemperance	70
The Mortality from Intemperate Drinking, and How Best to Arrive at the Truth	123
The Mortality Referable to Alcohol	76, 134
The Twelve <i>Contemporary</i> Doctors	183
What Science says about Moderate Drinking	92

NOTES AND EXTRACTS.

A Patient	47
A Railway Manager's Testimony	142
Alcohol and Phthisis	95
Alcohol and Oxygen	142
Alcoholic Hemianæsthesia	143
Alcoholic Remedies in Disease	143
Alleged Cure for Intemperance	143
An Economical Doctor	95
Are Inebriates Automaton?	144
Captain Webb on Alcohol	144
Consumption of Alcohol at the Manchester Royal Infirmary	96
Dr. N. S. Davis on Alcohol	47
Hearts Overworked	47
Hospital Expenditure	96
Intemperance and Hospital Casualties	95
London Temperance Hospital	200
Medical Testimonials	142
Pauper Dipsomaniacs	48
The International Temperance Congress at Paris	48
Treatment of Chronic Alcoholism	95

THE
MEDICAL TEMPERANCE JOURNAL.

October, 1878.

Original Contributions.

DR. WILLIAM FARR ON ALCOHOLISM.

PART OF A LETTER TO THE REGISTRAR-GENERAL, ON THE DEATH
STATISTICS OF 1876.

“O THAT my enemy would write a book.” We have the fullest sympathy with this ancient observation of the man of Ur. In seeking to convince the intellect or touch the heart there is nothing so depressing as dogged silence or indifferent levity. If our opponent has anything to say for himself, by all means let us hear it all; let him write it down and say all he has to say in the best way he can, then we shall know the worst and can dissect him at leisure. Impartial bystanders shall judge the case; or if not they, time and posterity will discover the better reason.

We are glad then that Dr. William Farr, in a letter to Major Graham, the Registrar-General of Births, Deaths, and Marriages in England, published in the Thirty-ninth Annual report a short time since, when dealing with the various causes of death in 1876, has dealt specially with the subject of Alcoholism. In reviewing these deaths he has considered it desirable to express the thoughts of his heart on the subject of Total Abstinence and Temperance (in the sense of moderation). Dr. Farr is clearly no lover of teetotalism; he is at present a “philalcoholist” to use his own expressive, if inelegant, word. We may therefore presume that he has said all he can say both in favour of moderation and against total-abstinence. It will now be necessary to follow him closely, to “come and search him” as the text has it.

“The deaths ascribed to *alcoholism* or to alcoholic drinks . . . are of two kinds, (a) deaths by delirium tremens, and, (b) deaths ascribed directly, under

various names, to intemperance. The number of such deaths was 817 in 1849 and 1,120 in 1876. The proportion of deaths from alcoholism to population (*a million*) in the five quinquennials 1850 to 1874 was 46, 41, 40, 40, 34 *annually*; there was a decided and gradual decline from first to last. The decline was most striking in *delirium tremens*. . . . Unfortunately in the last two years the old level was attained, not as regards delirium, but as regards alcoholism of other kinds."

By "the old level," he means 46 per million, a most remarkable and sudden rise from 34, namely 12, in two years only. He shows that in the three years (1871-73) of high wages the proportion of deaths by alcoholism was low, but rose in the three years of depression (1874-76)

"Probably because some sought consolation in drink, because the hours formerly spent in the workshops were spent in the public-house, or because the previous habits then began to bear fatal fruit."

In the former period 2,230 people died of drink, in the latter 3,316. He proceeds to point out that in the time of adversity there were more spirits drunk than in the time of prosperity, 42,000,000 gallons against 36,000,000. Because, also, £8,610,312 were added to the capital in Savings' Banks in the years of prosperity, and £8,612,236 in the years of adversity, he draws the conclusion that the waste of wages on drink in the former period was not such as is the current opinion. The whole drift of his argument is that the mortality caused by alcohol is extremely small, and not requiring any heroic remedy. He even has the temerity (shall we say?) in the very last sentence on this subject, but some pages further on, having apparently forgotten the significant return of the mortality from alcohol to the level of the years 1850-54, to say that the deaths from alcoholism "*are declining*." Even "Homer sometimes nods," so we must excuse Dr. Farr: it is a pity, however, that the fact which makes him hope to see these deaths approximating "to zero" (how very sanguine! for even Dr. Farr must swell the death-rate ere many years go by) has (to say the least) no existence.

But Dr. Farr really deserves censure for arguing from these returns as though they represented anything approaching a correct account of the deaths even directly due to alcohol, to say nothing of its indirect effects. If he does not know that these returns are absurdly false, he ought, of all men, to know it. Every medical man is aware that again and again deaths due to alcohol are returned as due to secondary and comparatively unimportant maladies, to *spare the feelings* of friends, or to avoid their indignation.

It is significant, however, that the alleged decrease, such as it is, is due to the diminution of deaths from *delirium tremens*, while the deaths from alcoholism of a more chronic character have

increased. We can clearly account for this. The *treatment* of delirium tremens has improved, and this improvement is spreading year by year. Instead of being dosed with opium and brandy or beer, they are now cut off from alcohol entirely, fed up, and the excitement and congestion of the brain reduced by bromide of potassium or chloral. The treatment of alcoholism has also improved, but not perhaps to the same extent.

These qualifying circumstances are quite enough to extinguish the gleam of hope which the figures might at first give rise to. But we have far more reliable data in the amount of alcoholic liquor consumed. The following table gives the value, which is equally good for the purpose of comparison:—

Years.		Average Population.		Average Total Cost.		Average per Head.		
				£		£	s.	d.
1865-67	...	30,000,000	...	110,162,428	...	3	13	2
1868-70	...	30,900,000	...	115,062,253	...	3	14	5
1871-73	...	31,800,000	...	130,474,089	...	4	1	9
1874-76	...	32,700,000	...	143,844,856	...	4	7	11

We can show that although more spirituous liquors were consumed in the three years of adversity (1874-76) than in the years of prosperity (1871-73), nevertheless this was chiefly due to the habits which had been formed in the previous three years, and which continued to develop even after the tide of adversity set in.

The increased prosperity in the years 1871-73 caused much more drinking, as is evident on comparing the amount spent per head in the years 1865-67 with that in the years 1868-70, and this again with that in the years 1871-73. It is perfectly plain that for many years the amount consumed has steadily grown, but about 1871 it took a sudden leap upwards: the population from 1860 to 1876 increased 15 per cent., whilst the increase in the consumption of alcohol was 75 per cent.

The statistics of drunkenness tell the same tale. The apprehensions in England and Wales were as follows:—

1861	...	82,196	|	1868	...	111,465
1862	...	94,908	|	1869	...	122,310
1863	...	94,745	|	1870	...	131,870
1864	...	100,067	|	1871	...	142,343
1865	...	105,310	|	1872	...	151,084
1866	...	104,368	|	1873	...	182,941
1867	...	100,357	|	1874	...	185,730

If we want to know for certain whether sobriety has increased or not, we need not consult the tables of mortality. The above statistics amply justify the general impression that there is more drunkenness than there was a few years ago. Dr. Farr is simply throwing dust in the eyes of the people by drawing conclusions

from data which are of no value for the purpose, while neglecting many of far greater weight which tell a different tale. It is also noteworthy that the increase in the deaths from alcoholism of all kinds, in the two periods referred to, has been much greater among females than males. The deaths of women increased 60 per cent., namely, from 42 to 67 per million; those of men only increased 38 per cent., namely, from 154 to 213 per million. This confirms the general opinion of the recent increase of female intemperance.

Dr. Farr adduces the curious testimony of Ramazzini on the effect of breathing the diluted vapour of alcohol in small continuous doses in the distilleries of Modena: the men become "lethargic, shrivelled, emaciated, melancholic, vertiginous, with loss of appetite." We are not quite so credulous as to believe that only inspiration of alcohol contributed to these effects.

Dr. Farr is on much surer ground when he proceeds to point out the injurious effects of drinking between meals during the day, as shown in the contrast between the mortality among clergymen or ministers and the vendors of alcoholic drinks. This has been previously noticed by us, but is worth reproduction.

Annual Rates of Mortality per 1,000 at Four Ages among Clergymen and Protestant Ministers, and among Publicans and Wine Merchants.

Ages.	Clergymen.	Protestant Ministers.	Publicans, Beersellers, Wine and Spirit Merchants.
25—35	4·65	5·83	14·49
35—45	6·28	7·30	20·44
45—55	13·24	9·33	28·59
55—65	22·70	24·60	43·03

He says that as a *body* the last are not "habitual drunkards," or drunkards in any sense; that they suffer most from taking a glass often (we fear scarcely little and often); there are hundreds of them who take enough in a day to make half-a-dozen men drunk if taken in a short space of time, and there are not a few who will drink their bottle of gin or other spirits before breakfast, and yet not be drunk. Truly difficult is the definition of drunkenness!

We almost pity Dr. Farr in having to admit, as he does, that "the effect of total abstinence has not yet been studied on a large scale, except so far as to show that no evident evil ensues, and that many under this regimen are perfectly healthy." Further on, he says:—

"What is wanted is a scientific inquiry into the mortality of a large body of total abstainers. Why does not the United Kingdom Temperance and General Provident Institution publish the results of such an inquiry which its actuary, Mr. Hardy, is so competent to conduct? Its experience is extensive, and might be compared with the experience of other offices of the same standing."

Can it be possible that Dr. Farr has not heard of the jealous scrutiny of this very competent actuary, and his deceased father, into the wonderful returns of this very institution, and the comparison of its results in the Temperance section, not with other offices, but (far better) with the Moderate drinking section in the same office? We have heard those figures again and again, *usque ad nauseam*, but in future we shall feel bound to announce them oftener. How differently Dr. Farr might have written had he but known them! For example, we might have been spared the trouble of reading his "reasons for believing that the present mixed dietary of wines and ales . . . is conducive to the duration of life."

Not only do all the *facts* of the above Society, of the *Whittington Assurance Society* and of some others, point in exactly the opposite direction, but we can state that the same actuary, Mr. Hardy, in a recent valuation of the assets and liabilities of the London Grand Division of the Sons of Temperance Friendly Society, reported thus:—

"In estimating the financial position of the Sickness Fund, I have used the tables of the 'Manchester Unity of Oddfellows' (1866-70), assuming that the special sickness experience of the Society would be, up to age 75, *one-fifth less* than that shown by the tables. . . . From the best investigation I was able to make into the past experience of the Society, I found a substantial improvement over the expected sickness of an ordinary population."

This was a cautious recommendation, because the average rate of sickness for ten years has been only about *two-thirds* that in the Oddfellows. Two years ago we had occasion to compare the amount of sickness in the above Society, which consists of several divisions in different parts of the country, with what is known as the Preston Sick Union of the Manchester Unity of Oddfellows, which consists of about thirteen lodges confederated for financial purposes in a very similar way, and containing only about twenty per cent. more members. The returns were for five years in each case.

	Average Number of members.	Average No. of days of sickness each sick member.	Average No. of days of sickness each member.
*Preston Union	... 1,345	... 38·5	... 7·70
Sons of Temperance...	1,176	... 25·9	... 4·27

* Hardwick's "Manual for Patrons and Members of Friendly Societies." Table ii., p. 90.

If we may believe Dr. Farr, the above contrast between the Sons of Temperance and the Oddfellows (for 7·7 days is nearly the average in that society throughout the country), is between a total-abstaining society and one which “it would be most unjust to charge, as a body, with occasional, to say nothing of frequent or habitual, drunkenness.” Dr. Farr’s credulity on certain points is marvellous; what does he assign as the basis of this opinion?

“The Oddfellows expel drunkards; and from an annual return . . . I find that in the six years 1871-76, when the number of members rose from 442,575 to 508,013 in the United Kingdom, 222 were expelled for various causes, including only four for drunkenness—less than *one* annually. The Foresters, with 509,519 members, have not furnished me with returns, but from all I can learn, they are also as a body equally temperate.”

Here we have 1,000,000 of the adult male population, somewhere about *one-seventh* of the adult males in the United Kingdom, and *not two* drunkards among them every year!!! What confidence can we repose in Dr. Farr’s judgment? What an example of sobriety to the upper classes! to the Houses of Parliament!! to the clergy!!! When will these bodies of men reach the lofty standard of the Foresters and Oddfellows?

We dare not charge Dr. Farr with intentional joking, but surely no huger joke ever appeared in an Annual Report. We are intimately acquainted with two large Oddfellow lodges, numbering some 600 men, and we know that if these lodges expelled every member for occasional drunkenness, not far short of one-sixth would at one time or other have to go. There are men drunk in these lodge-rooms every lodge-night. Not long ago the chief officer of one of them was suspended from office for drunkenness in the chair, being unable to conduct the business; he is still a member of the society. “The Oddfellows expel drunkards.” Bosh!—nothing less emphatic is suitable.

In the same town a member of the Foresters’ Court met with an accident; when his sick-pay was to be voted it was objected that he was intoxicated at the time, and met with his accident by his own fault; he had been by rail to condole (in several public-houses) with recently bereaved friends. There was conflicting evidence, as usual; but what was the weighty, though rather Hibernian, argument which decided the Court to grant the pay? “Give him the benefit of the doubt, it might happen to any of us some day;” the “it” referred, of course, to the effects of grief—and gin.

Dr. Farr’s joking propensity might well be credited also with the production of the following gem:—

“Taking it that 32,328 *persons* were disorderly drunk in the year [in the Metropolitan Police District in 1876], then 4,179,279 were sober, and not in a state to disturb the public peace, . . . it is plain that an immense majority o

the people are sober. Assuming that the 32,328 represent different persons drunk, or drunk and disorderly, one day in the year, then it follows that no charge was made against them for this crime on the remaining 364 days, when the rest of the population—more than four millions in number—gave the police no trouble.”

That is to say we are to believe that there are on the average about ninety people out of four millions drunk on each night in the year. If Dr. Farr will just stand for five or six hours in the evening opposite any large public-house in a crowded neighbourhood he will, by a strange coincidence, find that nearly if not all his ninety drunken people will happen to be congregated together for his special benefit and come out to exhibit themselves. What a statistician! Four millions, half of them children, leave us 2,000,000 of adults; of these more than half are females who do not furnish nearly so many drunkards as the males do. This would give about 32,000 persons drunk and disorderly out of 2,000,000, or 1 in 62. But let us suppose that two-thirds only are men. This gives, in round numbers, 20,000 men out of 1,000,000, or 1 in 50. It has been estimated that only 1 drunkard in 10 falls into the hands of the police, but if 1 in 5 do so it is clear that 1 adult male in every 13 is more or less frequently drunk. It is our deliberate opinion that this is within the truth. If the definition of drunkenness include (as it at least ought) that condition in which a man feels and confesses *to himself* (though no one else may know or perceive it) that he has taken *rather too much*, we are convinced that there is scarcely a moderate drinker but would have, if honest, to include himself in this category. It was the late Mr. Charles Buxton, the brewer, who estimated some years ago that there were at least 500,000 houses in the United Kingdom cursed by the presence of a drunkard.

The danger to life of free access to alcohol is also exhibited by Dr. Farr in the increased mortality among grocers since they entered into the wine and spirit trade. Comparing the mortality in the years 1860-61, and 1870-71, he finds it increased, in round numbers, about 20 per cent. at all ages. What further proof is needed of the poisonous action of alcohol?

Dr. Farr's account of the physiological action of alcohol, as detailed by Drs. Burdon Sanderson, Brunton and Parkes, must be passed by with the remark that the oxidation of alcohol is not yet scientifically determined, and that the assertion that “it is to that extent food; the oxidation produces some of the forms of force,” is at present only an assumption.

Dr. Farr indicates the uses of food as (1) to nourish the body, (2) to generate heat, (3) to set free muscular force, (4) to generate psychical force. He says that

“Water milk, wheat, oats, rice, fruits, meats of various kinds, suffice for the

three first purposes; but under the fourth head these elements are supplemented by coffee, cocoa, tea, tobacco, spices, wines and spirits. They directly affect the brain and nerves. Grape, hop and barleycorn thus find a place. Their effects are not learnt from chemistry but from the senses, of which the poets of all ages and philosophers are the natural expositors. . . . Material stimulants play their part in the emotions of the loftiest as well as the lowest orders of mind."

This is a mixture of truth and nonsense. For, whatever effect alcohol has on the brain and mind, it is precisely while *not* acting as food but before its destruction or elimination, by its own special affinity for nerve-tissue. It is, moreover, a libel on the food which *suffices* for the production of muscular force and heat to insinuate that it does not suffice for the generation of psychical force. From no other source does that force come, and the effect of all the special nervine agents referred to is simply, in various ways and degrees, to interfere with the normal balance of the nerve centres. That alcohol affects the emotions of the loftiest as well as of the lowest orders of mind we have, alas! had too much evidence by far.

We are next treated to a eulogium of wine in almost Anacreontic style, as the sole cause of poetry, eloquence and wit. There is a serio-comic vein throughout. At one time Sparta is held up as a warning, for "Lycurgus is said to have rooted up the vine; and Sparta had no drama, no art, no science." The inspiration of Horace and Cato; of Marlow, Shakespeare, and Ben Jonson; of eloquent English statesmen; of Burns, Byron and modern poets, is attributed to the wine-cup. No poetry in life without alcohol; that is the gist of the indictment. What would Mr. Carlyle say to this? If all poets are liars, how much more lies at the door of alcohol than we ever imagined? That there have been more illustrious drinkers than abstainers may, doubtless, be true; since the latter have hitherto always been in the minority. But are we to imagine that every soul-stirring passage of Shakespeare, every eloquent period of Burke, were the product of the pint pot or the decanter? If not, how can alcohol be credited with their origin? No one believes that alcohol develops brain and nerve-force in the intervals of its action; on the contrary, the intermediate depression is of common observation. And if Shakespeare would have failed without his stimulant, what about Milton? Will Dr. Farr venture to assert that *his* imagination was constantly excited by the flowing bowl? We trust, too, that he will take the opportunity of hearing Mr. Gough; and perhaps the most eloquent man in England, the Right Hon. John Bright, may deserve a moment's attention, even though he be a teetotaler.

If Dr. Farr's taste leads him to prefer Falstaff to John Wesley; Byron to John Howard, we can only say there is no accounting

for taste. The world might have been duller, but not less happy, without the laughter of fools.

There is no doubt an outward glitter, excitement, and whirl, to which alcohol contributes, and which is as fascinating as the apple to mother Eve. The old serpent is at no loss even now to recommend his wares as things to be desired to make one wise, to open the eyes to a new world of pleasure and knowledge; he keeps his word, but in what a sense! How carefully he conceals the other side of the picture. How he explains away suspicious appearances, and deludes his victims with the so-flattering idea that only fools fail, and they are not fools—of course not—not now! Eat, drink, and be merry!

“Nunc est bibendum : nunc pede libero
Pulsanda tellus;”

and—the devil take the hindmost.

But we are fully prepared to admit that emotional and ideational excitement is often caused by alcohol. That is precisely our indictment against it. It weakens self-control, reason, judgment. In certain natures, too, at a certain stage in the invading paralysis, the lower centres of the brain, released from their proper control, and excited for a time by the increased flow of blood through them, discharge their nerve-force automatically, or at the slightest impulse from within or without. All is exaggeration and fire. In other cases the effect will be very different. Much, very likely, depends on the size of the blood-vessels distributed to various parts of the brain. In Boswell's “Life of Dr. Johnson,” we read that “Sir Joshua Reynolds, having maintained that wine improved conversation, Dr. Johnson replied, ‘No, Sir; before dinner men meet with great inequality of understanding, and those who are conscious of their inferiority have the modesty not to talk; when they have drunk wine, every man feels himself comfortable, and loses that modesty, and grows impudent and vociferous; but he is not improved, he is only not sensible of his defects.’”

Sir A. Carlyle describes well this abdication of voluntary self-control and of critical judgment. He says:—“At the beginning of intoxication the ideas flow with a more than natural rapidity; self-love soars above our prudence, and shows itself openly; we lay aside the scale of deliberation, the slow, pondering, measuring, and comparing instruments of judgment. In condition every man is a hero to himself; he feels as he wishes, and the state of his mind is betrayed by boastings and falsehoods, by pretensions to abilities beyond his possessions, and by a delusive contempt of the evils that beset him.” We say, then, that alcohol, as soon as it affects the brain at all, so inter-

feres with it as to render the man more automatic, and therefore less a responsible self-controlling being; that it blunts all the finer perceptions both of mind and body, and that it will be only an accident if Philip sober approves of the brilliant displays of Philip under the influence of alcohol.

And it is clearly not a mere matter of dose. Everyone knows that you may take so little of any poison as to do yourself no harm, provided you do not repeat it too often. Some poisons, as arsenic, may in small doses undoubtedly cure some diseased states. If alcohol can cure any disease in small quantities we have a legitimate sphere for its action. But if there is no disease, then both arsenic and alcohol, in any dose, are out of place. We quite admit that so little alcohol may be taken daily as to produce no palpable symptoms: if that were universally done there would have been no Temperance movement. Even then, however, the statistics of the Life Assurance Societies would seem to declare against it. But we know that alcohol, like other narcotic drugs, loses its first effect, becomes tolerated, and, if special nerve-symptoms are required, the dose must be again increased. Intemperance is a fact, and the delusive effect of alcohol on the brain is the cause. Remove the cause and the effect will cease. Dr. Farr rakes heaven and earth to tell us how much glorious poetry we owe to Alcohol; we hope that next time he will try and reckon up how much that is good of all kinds we have lost by it. Each individual and every nation can then choose between them.

We should like to see what proof Dr. Farr can adduce that alcohol can "arrest the action of zymotic disease;" and admire the delicacy of his question, "May it not prevent the invasion of some kinds of zymotic diseases?" Seeing that Dr. Parkes and others have shown that abstainers are less liable to zymotic diseases than drinkers, wherever the two classes have been comparable, it is really very considerate of him, as things go, not to make a bold assertion on the subject. His contrast between the 96,660 deaths from zymotic disease in 1876, and the 1,120 from alcoholism, is superb. How magnificent an ignoring of everything beyond his own figures! He is like Shylock in his faithful adherence to "the bond." The Registrar-General knows that alcohol killed 1,120, no more and no less. We have before exposed this egregious fallacy and it is shameful that a gentleman in Dr. Farr's position should employ figures in this way and for such a purpose, to discredit and hamper a movement that has saved more lives and done more good, socially and morally, than any other, save the preaching of the Gospel, and which would do far more were it not so persistently opposed by those who ought to know better. At all events, if 1,120 deaths are altogether

preventible let us get rid of these, and we somehow think that not a few of the 96,660 would be got rid of also.

Gluttony no doubt is as wrong as intemperance, though scarcely so injurious to society. But where shall we look for gluttony or find it more readily than at those festive boards which seem so gratifying to Dr. Farr? We are convinced, however, that if there were any other single article of diet producing a tithe of the evil in the world which arises from alcohol, he would heartily denounce it, provided, at least, it was not too agreeable. The products, whether of nature or art, must be scrutinised with a watchful eye, and if they give rise to more sin and harm than pleasure and profit, a wise State and a wise man will know how to deal with them, whether they be wolves or vipers, dynamite or alcohol.



THE HABITUAL DRUNKARDS BILL.

By J. JAMES RIDGE, M.D., B.S., B.A., B.Sc. LOND.

AMONG the many "Innocents," whose massacre is annually regarded with marvellous resignation, must be reckoned this year the Habitual Drunkards Bill of Dr. Cameron. It is, by the way, an apt illustration of the latent conservatism of the English character, in the presence even of abuses and anomalies, that measures which have all but run the gauntlet of legislative procedure, but have not quite completed their race by a certain date in a certain month, should, by mere accident as it were, be postponed for months, and then have to go through the same dubious course again, let their desirability or urgency be what they may!

However, such is the case, and the chief advantage doubtless is that abundance of time is given for looking at the subject on every side. There is no doubt that we have not heard the last of this Bill by any means. It is founded on far too comfortable a theory for that, and affords much too useful a salve to the consciences of those who cannot be unconcerned at the evils of intemperance, but are not prepared to apply the only thorough preventive—total abstinence. The wail of the victims of drink *will* sometimes penetrate to the cosy fireside and the luxurious armchair, and raise a cloud on the placid self-contented brow, and then it is far more convenient to say, "Shut the drunkard up," while you pour out another glass of wine, than to show practical sympathy and self-denial by voting down the drink both

at home and abroad. I do not mean to say that this is the state of mind of the originators or even of the main supporters of the Bill, but it is an important factor in its chance of passing that it can be supported complacently by drink-makers and drink-sellers, and does not involve one jot of self-denial on the part of drink-drinkers. It is even possible to believe, as many do, that great benefits will ensue therefrom to the drunkard himself or herself, and to the distracted relatives. But while this has not yet been proved as regards its ultimate effect, it seems to me that the departure contemplated in this Bill is altogether on the wrong tack; that it is *unnecessary*, because it does not go to the root of the evil, which, nevertheless, is perfectly eradicable, and only waits for the public conscience to arouse the public will to eradicate it: that it is *undesirable*, because, as a temporary expedient, removing for a time the chiefest stimuli to action, and creating a false idea of the nature of drunkenness and a false satisfaction that "something is being done" to remedy it, it will postpone the time when this giant evil and vice is resolutely faced and utterly abolished without any excuse, hesitation, or misspent sympathy. I also think that it would ultimately prove *ineffectual* for accomplishing the limited object which it has in view, namely, the permanent recovery of the worst cases of habitual drunkenness.

A few more remarks on these points. I say that I do not think that the Bill would *effectually* reclaim any but a very small percentage of habitual drunkards. I assume that the licensing laws and drinking customs of society remain the same. The temptations therefore, which have previously proved too powerful for the drunkard will surround him again sooner or later after his release from the Inebriate Asylum. Now the advocates of alcohol in moderation are always declaring that the fault which gives rise to intoxication is not in the beverage but in *the man*; if then he has once fallen, and thus proved himself to be a weak brother, what probability is there that now he will be strong? Again, there is assumed to be a distinction between drunkards who are vicious and drunkards who are mentally diseased and cannot help it. It is the latter class who are to be discriminated and cured. In the former the *functions* of the brain are deranged, in the latter there are (supposed to be) *organic* alterations. The first could help it if they would, the second would help it if they could, perhaps. Can there be any doubt as to which class it would be more easy to escape from? Bad habits or functional mal-arrangements would certainly be more easily altered.

But what are the facts? Ask any one who has been long engaged in endeavours to reclaim the intemperate. They will tell you that a man, and especially a woman, is rarely reclaimed

for life unless some new strong dominant motive takes possession of their minds. In the majority of cases this is a religious motive, but in some few it is avarice or some other powerful vice or virtue. In the long run, it may be after years of total abstinence, the first glass is taken, which is sure to be the prelude, short or long, to another fall. If, then, whole years of abstinence and resistance of continual temptation will not in itself suffice to eradicate the tendency in the case of a mere habit, what likelihood is there of curing a disease in which this habit has culminated?

But we are not without other evidence besides this disappointing failure of mere total abstinence, even though voluntarily adopted in the face of temptation. We have compulsory total abstinence enforced upon a large number of habitual drunkards year after year in our numerous prisons. Hundreds there recover their health and strength and resolve on reformation. Many of them do not resent their compulsory detention, but welcome it as gladly as any of those who are supposed to be waiting anxiously for Dr. Cameron's Bill to pass; but few, if any, keep these resolutions, unless, as I have said, they come under the influence of some other dominant passion. There is no reason to suppose that the name of the Act under which they would be detained would make a very material difference.

Considering, then, these practical failures, I cannot but be sceptical of the boasted success of Inebriate Asylums in America. This is a point which Dr. Bucknill has made peculiarly his own, and has certainly exposed some weak points in the statistics. Nothing would be easier than to take a roseate view of the future careers of those who leave the walls of the special institution with such golden promises on their lips. Some of them doubtless endure for a time, but the 5 per cent. whom Dr. Gilchrist reckons as cured is far more probable than the 38 or more per cent. whom some American authorities allege to have perfectly recovered. It is well, however, to remember that all our Transatlantic brethren are not equally enamoured with this treatment. The medical superintendent of the large institution on Ward's Island, near New York, has recently published the following remarks in his report:—

“The Inebriate Asylum was one of the incumbrances attached to the heritage accepted by the medical board. Its achievements and success as a reformatory have never been at all commensurate with the original cost or current expenditures lavished upon this most magnificently-designed charity. Neither has the success in the management and treatment of such cases of inebriety as have been confided to its custody, from time to time, been such as to call forth any mutual gratulations as to our administrative system or methods of treatment. The aggregate of admissions since the institution was first opened, is 1,162. There are no records or data extant to show what percentage of these cases have resulted in a permanent reformation. That portion

of the building still devoted to the uses of the Inebriate Asylum is restricted to the first floor of the west wing of the building, and includes about fifteen handsomely-furnished sleeping apartments, a smoking-room, and a spacious pavilion occupied as a billiard-room. There are at present five boarders in this department, one of whom is a confirmed opium-eater. The largest number of patients under treatment at any one time during the year was ten. The general average, however, has not much exceeded the former number. Of the thirty who have been inmates of the institution for the past year, a few cases have gone out materially strengthened and benefited by their temporary isolation and seclusion from the temptations and allurements of previous social surroundings. Others, notwithstanding (in a few instances at least) the earnest purpose and endeavour to reform, when brought in contact with the contaminating influences of city life (so near at hand), have relapsed from their good intentions. The cases of reformation (comparatively few) have been substantially restricted to persons whose will-power had not been wholly eliminated by the emasculating influence of potent stimulants. Such as these only, still possessing a moral back-bone, have been aroused to a realisation of their imperilled state, and with strong, earnest purpose have set their faces sturdily and resolutely against the lust for drink. It is suggested that the probabilities of thorough reclamation are greater where the person voluntarily seeks the protection here offered by self-commitment. The fact of his doing so is evidence patent to the world that there are still lingering within him some purer aspirations, some worthier ambitions, some stronger purposes than those which ordinarily animate the sordid thrall of appetite and habit.

"In one instance we are warranted in believing that the timely application of the restraints here offered was effectual in saving to society, to his family, and to himself, a man of fine abilities and promise. Another patient came voluntarily without any commitment or coercion, and remained several months at the institution, during which period he never manifested the least desire to return to his former habit; and when he left was resolute in his determination to lead, for the future, a worthier, sober life. Still a third, who had squandered a fortune and the best years of his life in wild dissipation and follies, was aroused to a realising sense of his condition by one night's confinement in a cell, and a subsequent duress with us, which changed the whole turbulent current of his life, and he has since gone out a reformed man, and is now filling an honoured and useful position in society, rigidly eschewing his old comrades and haunts, and devoting himself with untiring industry to his business. These, however, are the exceptions—waifs, as it were, drifting out of the strong, turbid, impetuous current of human appetite and passion into some sheltered haven of safety and rest. More than this we cannot claim. There is no charm or magic in an inebriate asylum to reclaim a besotted victim of a perverted nature. There must be the innate germ of reformation in the individual himself. To those who have been the subjects of a single debauch, whose feet are not set in the downward path to ruin, this asylum might prove a blessed haven of reform, whose restful, quiet, and modest attractions, whose wholesome restraints and placid amusements may recreate, recuperate, and save."

To any candid mind the details of the successful cases (at least temporarily so) narrated above are sufficient to show that even long and habitual drunkenness and dissipation is by no means necessarily (if ever) due to organic disease of the brain, while the whole completely supports my proposition that compulsory detention, even if voluntarily submitted to, would be ineffectual to cope with the evil, especially in those cases for which it would be most required.

This brings in another point, namely, that it is *unnecessary*. If there is a clear proof of mental derangement, the present lunacy law is able to deal with it. If there is a breach of the law, the committal to gaol will give a thorough opportunity for reformation to all who desire to avail themselves of it, and would in 99 cases out of 100 reclaim them, were it not for the temptations to which they are ruthlessly exposed immediately upon liberation. But it is not simply on account of the drunkard himself that this Bill is asked for, but also on behalf of his wife, family, and friends. But what do we see again and again? The wife or the husband, as the case may be, will pour out a long story of terrible and grievous wrongs, even of personal violence, and denounce the vice of the spouse, and will take beer, wine, or spirits themselves as often as they want it, and even have it on the dinner or supper table as a standing temptation and provocative to him who will half-kill her if he tastes the first drop of it! This is no fancy picture: I know case after case where such is the practice and the result, with variations. These good people will do anything to save their friends but give up their own little drop, and I have no pity for them. But folly has even greater depths than this, and I think women are most to blame here, as far as I have observed. I know men who have resolved to abstain from drink, and rescue themselves from its power, and these men have been daily pestered and badgered by their own wives to take a little drink with them at home, though again and again these very wives have suffered from their husbands' intemperance. And these are not just the dregs of society: far from it; they are to be found in all classes, and some of the worst cases have been in circles of intelligence and wealth! If the relatives and friends of every drunkard, who are so anxious to save him (and themselves), would just put away all drink out of the house and become abstainers, we should soon have a sober England, for few indeed are the households where, sooner or later, there is not one slain.

There is scarcely a drunkard to be found who has not, at one time or other, tried to abstain, and if society and friends tempt him, and permit him to be tempted by legalising the liquor traffic, it is cowardly, and (if realised) hypocritical, to visit the penalty on the head of the victim.

But I consider this Bill *undesirable*. I have already said that it is a makeshift to patch up the sore instead of curing it, and will tend to postpone the attempt. But it is also undesirable, because it creates a wrong impression as to the nature of drunkenness. It is often willingly overlooked that the cause of all intemperance, whether habitual or not, is alcoholic drink; that all the hideous consequences of using intoxicating liquors are easily and com-

pletely preventible; that their general disuse would not only completely cure and prevent habitual drunkenness, but all other forms and degrees of it. This Bill is utterly inadequate to effect the object which every Christian and true patriot ought to aim at; it is not even a step towards the procural of that object, it begins at the wrong end. Even if it cured all the habitual drunkards in one year, by the time they were sent out there would be a new year's crop to take their place. What we want is prevention, not cure; or, rather, prevention which includes and ensures thorough cure; to shut the stable-door *before* the steed is stolen.

It is also undesirable, because it is impossible to define the cases to which it should apply. Every vicious habit unquestionably implies a change in the structure of the brain too subtle for our observation, the most habitual drunkard will exhibit no change in his brain, or, at all events, none which can be obviously set down as the cause of his vice. The presence of alcohol is only temporary, and when he is involuntarily impelled to drink (as alleged) after long abstinence, you will certainly not be able to find any alcohol there before he drinks it. If there are obvious pathological changes you will generally find other symptoms of mental derangement.

It may be said that the same objections do not apply to voluntary detention as to compulsory detention. This I grant, but the whole scheme is vicious; the State, as such, ought not to interfere in the matter, except to prevent injury to life and property, by imprisonment or fine, or to prohibit the public sale of intoxicating liquors as the fruitful source of temptation. There will always be great differences in the amount of self-control which men and women possess, but there is no more efficient agent for weakening that self-control by slow degrees than alcohol. Many circumstances, doubtless, combine to lead a certain man to intemperance, but there is always one cause, the *causa causans*, the *sine quâ non*, in consequence of which the continuance or disappearance of this vice is completely subject to the will and action of the community. That cause is alcohol, and the true remedy for drunkenness, habitual or occasional, is total abstinence for the individual and prohibition for the State.



ANOTHER MEDICAL OPINION ON ALCOHOL.*

IN Medicine there are many schools, but we are thankful to be able to record that men of all the schools are to be found who are uncompromising standard-bearers of the great and steadily-augmenting Temperance host. There is rarely now a medical work of any pretensions published, orthodox or heterodox, where some reference more or less favourable is not made to the cardinal physical truths insisted on by the advocates of total abstinence from all intoxicating drinks. In the present volume, Dr. Goodman, a veteran abstainer, has brought together several papers he has at different times communicated to various scientific bodies. He gives no uncertain sound on the danger of alcoholic medication in various diseases, and we rejoice to see him so emphatic in condemning the administration of alcohol in hæmorrhage. He quotes the following pregnant deliverance from Dr. Bradbury, physician to Addenbrooke's Hospital, Cambridge, on the hæmorrhagic diathesis, as laying down a sound law for indications of treatment in severe and continued losses of blood:—

“ Closely allied to these cases of hæmoptysis (or expectoration of blood) are those occurring in habitual drunkards, and in scurvy, purpura, hæmorrhagic exanthemata, typhus, small-pox, &c. In all these instances (he declared) we probably have *morbid tenderness of the walls of the blood-vessels*, occurring without any assignable cause in the *hæmorrhagic diathesis*. But in chronic alcoholism, purpura, &c., it is probably owing to a *deterioration of the blood*, and, in the words of Niemeyer, ‘*so modifying the nutritive state of the walls of the blood-vessels as to impair their resisting power.*’ ”

After thus establishing a scientific basis for the medical treatment of hæmorrhage (bleeding), the author fairly and reasonably deduces therefrom that in this morbid tenderness of the blood-vessels and this deterioration and impaired resisting power of the blood lie the danger, by the use of alcohol, of producing that state of the constitution termed the hæmorrhagic diathesis. In support of his views, he states that medical men of eminence usually forbid the employment of spirituous potations during hæmorrhage, simply because of the vascular excitement which it produces, which endangers vascular distention and rupture, and a recurrence of the bleeding.

Our author has a much needed, most valuable, and most true note of warning to the limited drinking members of society, with reference to the risks everyone runs of being seized with apoplexy and paralysis while indulging, however cautiously, in the ordinary use of intoxicating liquors. He calls attention to the fact re-

* “ Fibrin, and its relation to Life, Health, Longevity, and Disease.” By John Goodman, M.D. London: S. W. Partridge & Co.

marked on by Carpenter, that there is a marked deficiency of fibrin in the blood in apoplexy, and to the two main causes of the disease, as promulgated by Niemeyer, viz., the morbid fragility of the blood-vessels and the increased pressure of blood within them; and justly adds, that in this statement of causes we see as much danger from absence of nutrition as in congestive fulness of the vessels. Blood-vessels filled to repletion by fluids entirely innutritive, and at the same time stimulating to excessive action, such as alcoholic liquids, present, of course, the greatest source of danger. "How frequent," he says,

"are the cases of *apoplexy, paralysis, hæmoptysis* (spitting of blood), &c., which occur as a consequence of *inebriation*, even by the *moderate use of alcoholic beverages*! In these cases the very *self-same cause which prevents the due or healthy formation of fibrin in the blood*, and consequently the nutrition and healthy resistance of the vascular walls, and renders them weak and liable to distention, rupture, and hæmorrhage, *at the same time whips and spurs to vehemently excited action the heart and arterial system, and produces that forcible distention which ultimately effects the rupture of these vessels*. On the other hand it may cause such *obstruction* and arrest to the venous current in the head, chest, liver, &c., and in the circulation generally, as may impede the return of blood through the veins and tend also to develop congestion or repletion therein."

A remarkable proof that free indulgence in alcohol tends to induce that state of the blood which renders the arrest of bleeding so difficult, and in fact sometimes impossible, is given in the following evidence of members of a profession who have ample opportunities of observation:—

"As regards the *hæmorrhagic diathesis* (constitution) I have made inquiry from numerous dentists as to what parties in their practice are most liable to hæmorrhage, or bleeding, and in whose cases they have the greatest amount of trouble in arresting it. In all the replies that I have received one common answer has been returned, viz., 'that the "*inebriates*" are the parties most subject to hæmorrhage after tooth extraction.' Some have described fearful and long protracted loss of blood before it could be arrested, and in which alarm was most seriously excited of nothing less than the occurrence of a fatal result. One case related, 'bled for more than twenty-four hours, being alone in his house, and had a very narrow escape from death.'"

The marked influence of intemperance in rendering drinkers susceptible to the cholera poison is well known, and is admitted by all competent and intelligent observers. As the doctor succinctly puts it, "We have been frequently struck with the number of inebriates who have fallen victims to this disease. It has been a fact patent to the medical profession that the majority of seizures has occurred in this class of persons."

In expounding the *rationalé* of the inimical influence of alcoholic drinks on human health and life, Dr. Goodman alludes at length and with much clearness to the universally admitted fact that alcohol is entirely antagonistic to change in animal matter.

As he says, “no fact is more patent than that all kinds of dead animals, from the human being down to the lowest form of reptile, can be preserved unchanged, almost for any length of time, in dilute alcoholic liquid.” All the latest results of scientific observations show that, admitted into the system, alcohol is found greatly to diminish the amount of chemical transformation therein, and to manifest itself as a narcotico-irritant poison, from the presence of which the system has no rest until it is either expelled from, or transformed in, the organism.

The author emphasises the carbonising and devitalising effects of alcohol on the blood in the following vigorous sentences:—

“Sir B. Brodie and others have shown, by experiment, that alcohol *robs arterial blood of its oxygen* during respiration. That it converts this fluid—that is, duly oxydised blood of a bright vermillion colour, and fitted for nutrition, into blood dark or black in its colour, innutritious in its nature, and literally poisonous in its properties. The most positive experiments have proved that the presence of black blood in the arterial vessels is directly hostile to human life. That it cannot be circulated through the head for more than a few seconds, without inevitably producing death. The effects of alcohol on the body in degree, therefore, are precisely those produced by drowning, strangulation, &c. Thus alcohol seizes upon and appropriates to itself the oxygen of the arterial blood, upon which the latter is dependent for its renewal and vitalising qualities, as well as for the perfect elaboration of its fibrin. And as oxygen is the great agent in the chemical transformations of the body, hence *the arrest of change of matter*. Thus the action of alcohol upon the bright scarlet arterial blood, is to change it to a dark or purple colour, and more or less resembling venous blood, and at the same time, as we shall presently see, to deprive it of good, healthy, and well-elaborated fibrin.

“The dark colour of arterial blood, by the use of alcohol, is plainly and unmistakably manifested in the livid or purple countenance of the confirmed inebriate.”

The conclusion is not at all forced that the facts and evidence just commented on account for the contrast between the stamina, enduring energy, and augmented strength of the water drinkers in all heavy and laborious exertions and enterprises, and the much less amount of power, strength and energy, possessed by those who indulge in intoxicating liquors.

“Water, and good nitrogenous food, being the producing elements of all true and healthy nutritious supply to the muscular organs, and alcohol being not only a non-producer, but a direct antagonist to the production of good healthy and well elaborated plasm, calculated for the renewal of muscular tissue, of course, in the latter instance, when the elements of healthy supply are deficient, the power of muscular action must be decreased and enfeebled, and the power of endurance of toil correspondingly reduced.

“It is on these accounts that, in all competitions and trials of strength between these two classes of men, victory, as a natural consequence, with fair play, must be on the side of the former.”

On the hollowness of the claim put forward on behalf of alcohol that it is a heat giver, the author dilates in trenchant language. He, with great propriety, says:—

"In the lower animals, which are naturally exposed to all the vicissitudes of atmospheric variation, we notice that none of them by Nature ever partake of alcoholic potations, but quench their thirst with water only. Yet great numbers of them surpass mankind immensely in muscular power, and all of them in endurance of cold, and, except by egregious wrong-doing, during the period of life probably seldom know pain."

The superiority of abstinence over even moderation is strikingly illustrated in the following sentences:—

"Perhaps no better illustration of the advancing opinion of society in general about water drinking can be adduced here than the fact, that men employed in the manufacture of armour plates for Her Majesty's navy, and who have in bands to carry almost white hot and immense pieces of metal, some fourteen inches thick, from the furnace to the forge, are not, it is said, permitted to taste alcohol while engaged in this laborious work. In order to protect them from the intense body of fire thus conveyed, it appears that around each waist is secured a sackcloth belt saturated with water. Moreover, such is the danger in the conveyance of the heated metal, that the occurrence of mistake in its transit might be fatal to many, and therefore to ensure perfect clearness of intellect during an operation so dangerous to human life, water, as a beverage, is imperatively enjoined by their employers."

We find so much to approve of in this little work, and we have so heartily commended the clear and various utterances on alcohol, that we have little compunction in pointing out one blemish. Dr. Goodman says that when the constitution is very weak, faint, or feeble, "one wine-glass of good claret, with as much water, daily or so, will be found useful." If the estimable doctor thinks extreme debility necessitates the use of alcohol, why does he not favour his readers with a scientific medical prescription with the alcoholic ingredient in a definite quantity in the mixture? There are clarets and clarets. Some are alcoholically weak and acetically strong, flat as ditch water and sour as vinegar; others are acetically weak and alcoholically strong, so spirituously potent and fiery as to be entitled to be called weak brandy. In future let us hope that the learned author will, wherever he may think alcohol called for in medical treatment, condescend either to state the particular brand, age, and alcoholic strength of the wine he recommends, or, what would be the preferable and more dignified procedure, append a formal prescription containing alcohol with the exact dose and the length of time this branch of the treatment should be persevered in. But, after all, the doctor seems to feel that a resort to alcohol is altogether unnecessary; for he immediately adds that "a nervine mixture made up at the chemist's, and containing some chief stimulating medicaments, may be administered in small quantities instead." Why, then, in the name of all that is reasonable, rational, and right, did you, O good doctor, suggest claret at all? There are reformed drunkards, to whom a medicinal dose of claret would be the spark to set the old drink craving in as fierce a blaze as

ever; and surely we are within our right when we ask all medical men to refrain from prescribing any intoxicating beverage when they admit that a mixture from the chemist might be given instead.

This, however, is but an oversight which can easily, and we have no doubt will, be remedied. There is a body of sound Temperance teaching in this unpretending volume which we gladly hail, and we trust that the constantly accumulating testimony of the medical profession as to the dangers accompanying even careful drinking will ere long wrench from all intoxicating compounds the patronage of the educated, the right-minded, and the religious classes in the community.



THE TEMPERANCE BREAKFAST AT BATH.

BY A PHYSICIAN WHO WAS PRESENT.

SINCE the last number of our Journal was issued the Bath meeting of the British Medical Association has taken place, and has passed away to add another link to the many bright memories of those meetings in past years, and we trust that the last meeting has been no less interesting as a social gathering, a scientific repast, or a stimulus to renewed work for the good of suffering humanity, than most of its predecessors have been. To the thoughtful, inquiring, and beneficent mind, from whatever standpoint the view may be taken, the annual meeting of this Association presents many interesting features. We presume that amongst the first objects of its existence may be placed the investigation and dissemination of the great scientific truths which, little by little or grain by grain, have in different ages been added to the now very considerable stores of common knowledge for the good of the more unfortunate or more suffering portion of mankind. The healthy need not the physician. It is the *sinner*s who are called to repentance. In medicine proper the most trifling maladies have evoked endless experiments, ages of continuous discussions and writings, and innumerable remedies, apparently out of all proportion to the importance of the maladies; no sooner is any fresh little flaw in the organisation of this bit of life (lasting only for a few short years) discovered than a whole legion of remedies are suggested, discussed, recommended and condemned, and perhaps killed to spring up again, as it were, from their tombs in subsequent years with renewed life and activity. But, singular to relate, and inexplicable to our-

selves, one gigantic evil seems for many years to have escaped the assiduous attention which other evils have secured ; it has been shunned or passed by as something beneath the attention of the fashionable physician—he has avoided it as something unclean, something by which his reputation would be tarnished or his person defiled—exactly in the same way in which we avoid a certain class of objectionable patients. We all of us, in the course of years of experience, have met with patients whose patronage we would gladly give a good deal to be without. Such a feeling we fear has existed between the medical profession and the Temperance movement, more particularly in the past, but deeply existing in the present, and we hope will be in an ever decreasing degree in the future ; but we are sanguine even for the present, and our eye, which carries us far into the future, can already discern signs of a revolutionary change not very far ahead which shall completely alter the relation between the medical profession and the Temperance movement. Would that they should awake at once to a sense of the enormous responsibility which they incur by avoiding this question ! It is essentially a medical question to study intently the action of alcohol upon the human body, and it behoves every right feeling member of that profession to deeply study the method in its manifold aspects, and as leaders of public opinion to pioneer the way from disease, degradation and premature death, to health, improvement and long life. That the main cause of these evils lies upon an alcoholic foundation hardly any one specially educated in the matter will deny. Addressing a large class of intellectual and thoughtful readers it would be idle and a waste of time to attempt to enumerate the evils of alcoholic drinking, drunkenness, and its satellites. Where should we begin, where should we end ? The evils are so universally admitted that we waive the task as here unnecessary. We are more concerned with the remedy, and it is with this aspect more especially that we concern ourselves. Remedies are of many kinds—good, bad, indifferent, and objectionable ; but we imagine that the perfect remedies for any disease are to be classed under the term *specifics*, and though we hate and eschew quackery, we regard medicines which may be truly placed in this category as alone perfect ; and we claim the merit of adding and advocating a most valuable one to the very few specifics which we have in psychological and curative medicine—a remedy absolutely certain and infallible for the whole group of alcoholic drinks—total abstinence—a remedy which if only carried out will as effectually extinguish them as that sulphur will cure itch. No alcoholic drinking, there will be no alcoholic diseases. Alcohol is a producer of disease, it produces by its continued use innu-

merable maladies and, certainly, premature death. It leaves unnatural irritation, congestion, and anæsthesia in whatever organ to which it is continually applied, as in its continued contact with the liver, stomach, and kidneys, and in most of these cases the withdrawal of such an unnatural irritant is all that is necessary to restore the organs to health, if they are not already hopelessly destroyed. The question is essentially a medical and a physiological one; it behoves the profession to take up the matter in earnest for special investigation.

The meeting at Bath had a moral and sunny side given to it by the assembling of so large a number of members at the breakfast given by the National Temperance League. We were delighted to see such vast numbers for so good a cause, and still more glad to see evidences of the slow progress which the total abstinence truth is making amongst the ranks of the profession. No body of men should be more alive to the mischief which alcohol is doing in society than medical men, and no men are better able to appreciate the power of an unfailing remedy than they. Wholesale wrecks and ruins they must see in every turn of life. Families ruined, health destroyed, fortunes lost, domestic joy and happiness poisoned at their very well-springs, whilst a specific is waiting to be used. Beelzebub, the publican, and the harlot are in indissoluble union, whilst salvation and temperance are hand in hand. Temperance is one of the fruits of the better spirit; alcohol which produces endless diseases cures none. It is an antidote to nothing, a specific for nothing, curative of nothing, a preventative of nothing, but simply an exhausting narcotic, which, instead of sustaining animal force, simply calls it forth and prematurely exhausts it; and such stimuli following in the exhaustive effects of disease are treacherous in the extreme; for, syren like, they charm by their allurements, whilst they devour the lives which are foolish enough to trust them. Alcohol can no longer retain a place amongst nutrient foods, and we should ever remember that in vital organisations nutrition is the source of all power.



DR. BUCKNILL ON DRUNKENNESS.*

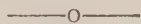
THIS book is published in order to place before the public, in a collected form, various papers and letters in which Dr. Bucknill

* "Habitual Drunkenness and Insane Drunkards." By John Charles Bucknill, M.D. Lond., F.R.S. London: Macmillan & Co. Pp. 103.

has considered the social and medical bearings of drunkenness. We need hardly say that Dr. Bucknill is thoroughly opposed to exceptional legislation, even that mild form which the Habitual Drunkards Bill assumed this year under the leadership of Dr. Cameron. He has collected evidence which, from time to time, he has published in various forms. The contents sufficiently indicate the scope of the work. There is an Introductory Speech, made in America in 1875, on the Operation of Inebriate Asylums there; a Speech on the Treatment of Habitual Drunkards, made at Rugby; and a Letter thereupon of Dr. Clouston, Editor of the *Journal of Mental Science*; two letters in that journal on the Distinction between Habitual Drunkenness as a Vice and Insane Drunkenness as a Disease, and on the Treatment of Vicious Drunkards; the article in the *Contemporary Review*, February, 1877, on Habitual Drunkenness: a Vice, Crime, or Disease, and the Duty of the State—which has been already reviewed at length in our columns; an Address to a Meeting of the Medico-Psychological Society on the Relations of Drunkenness and Insanity; and three letters to the *Times* on the same subject and on Dr. Cameron's Bill. These speeches, papers, and letters present one side of the question very forcibly, and must needs be read by all who take an intelligent interest in it.



Miscellaneous Communications.



THE MEDICAL MEETING AT BATH.

THE Ninth Annual Conference of members of the British Medical Association, held at the instance of the National Temperance League, took place at the Guildhall, Bath, on Thursday morning, 8th August.

About 140 gentlemen were present.

The venerable President of the League, Mr. Samuel Bowly, occupied the host's chair, and the League was also represented by Mr. John Taylor, the chairman of the Executive Committee, and Mr. Robert Rae, Secretary.

After breakfast,

The CHAIRMAN said he believed it was now nine years since he first had

the pleasure of meeting the members of the British Medical Association in the town of Leeds. Then he appealed to them, not so much in their character of medical men, as of kind-hearted, benevolent persons, anxious to promote the welfare of their country, leaving the physical question very much in their hands, believing that it would ultimately work out according to the dictates of science. In the meantime, however, they wanted their sympathies on behalf of that movement in which some of them had been engaged for more than forty years. He was very thankful to say that that appeal was not in vain; that from

that time to this the advocates of temperance had had a large amount of sympathy and co-operation from the medical men of this country. Indeed, he attributed the very great change in public opinion upon that question to a large extent to the assistance they had received from medical men. He did not intend to enter at all upon the merits of the temperance question in a medical point of view, because there were so many present who understood it far better than he did. He had always himself entertained the idea that there was that harmony in the laws of God that an article which was so dangerous to the moral and social well-being of society could not be essential to its physical welfare, and he thought that science was rapidly coming to that conclusion. He adopted the principle of total abstinence more than forty years ago, because he believed then most honestly, as he believed more firmly to-day, that it is the only remedy for the great evil of intemperance among the great masses of our people. He did not believe that the great mass of the people—uneducated as they are, with their little moral power and the difficulties in which they are placed—would ever be able to use that article without a considerable amount of evil following. Now that we found it is not necessary to health or strength or permanent enjoyment, it seemed consistent with common sense and true patriotism and benevolence to recommend the disuse of it amongst that class of the community who so deeply suffered from it. He never could, and he thought the medical gentlemen present could not, expect, that the uneducated classes would give up drink while it is freely used by the more educated and the more religious part of the community, and which in some sense commended it to them. They must, if they were ever to move in that direction, be themselves first in the field; he had never asked his servants to give up what he would not give up himself. He did not think it was fair to ask those classes of the community to break through that habit, which would be extremely difficult, unless they were

aided by the more influential classes of society. He knew that the class of gentlemen before him were more instrumental in bringing that result about than any other, and he commended it to them. Might God bless them in the promotion of the work in which the League had been very long engaged, and on which they hoped the blessing of God might rest. The chairman then called upon Mr. Taylor to address those present, after which he asked that some of the medical men would address them on the question.

Mr. JOHN TAYLOR, on behalf of the committee and on his own behalf, thanked those present most warmly for their attendance. That was the first time he had had the honour to meet the British Medical Association; but sixteen years ago, in 1862, it fell to his lot to meet the first company of medical men invited by the National Temperance League to consider the question of temperance. That was in London, and they met at the house of Mr. Samuel Gurney, at Prince's Gate. His colleague, who was appointed to support him on that occasion, was prevented by some official engagements from being present, and he (the speaker) found himself the only layman in a large company of doctors. Well, he survived the event, and he must again—as they had had so frequently to do—acknowledge the sympathy and courtesy with which the question was met by the gentlemen who then met him. They had had many meetings since, and the aspect of things had very much changed with regard to public opinion from that time to the present. While the League thanked them, and especially some notable members in their profession, for the aid which they had given to the temperance cause, he thought they would be inclined to acknowledge that the obstinate, and, as they had often been called, fanatical teetotalers, had contributed something in the way of fact and evidence to medical science and medical knowledge. The deputation—Mr. Bowly, himself, and Mr. Rae—presented before those present over a century of years

of abstinence, and years which had been by all three of them devoted to hard work of various kinds. Their president (Mr. Bowly) when he became a teetotaler forty years ago was told it was absolutely impossible that he could live, such was his constitution, and such was his peculiar dyspeptic difficulties, that it was absolutely impossible that he could live without partaking of some amount of wine or other intoxicating liquor. With great obstinacy he had lived for forty years, and he now had to acknowledge that the principle of total abstinence, which was taken up on moral grounds, had been to him physically of inestimable advantage, and a great source of power. In many ways this experience was of some interest as regarded medical science. In his own case, for the last twenty-five years he had been a business man in London, and a business man in its most stirring centre—the Stock Exchange, where perhaps the nerves and strength of a man are more severely tried than in any other business, and where, he was sorry to say, it was too frequently the case that in times of difficulty and in times of panic many of their men sought help in a glass of brandy or sherry. He recollected some time ago there was some news telegraphed which was supposed to be of value and importance to himself, and a member of the house said to his clerk—he was asking where (the speaker) was—“Oh,” said he, “Mr. Taylor is drinking champagne, I suppose.” He said that as a matter of chaff, because he thought the news was of value to himself. “No,” replied he (the speaker), “I neither drink champagne at good news, nor brandy or sherry in times of distraction.” The most seductive forms of drink were these two: in the case of ladies who took a glass when they thought it would do them good, and in the case of business men who in times of extra wear, disturbance, and excitement, had resort to the small glass of brandy or sherry to sustain themselves. Those were the two most seductive and dangerous forms of drink that were indulged in,

far worse than convivial drinking, where if a man drank to excess he knew that he was doing wrong, and endeavoured to put a check on himself. He remembered at a luncheon-bar seeing a man ask for a glass of sherry for which he tendered a shilling, and when the waitress gave him 4d. and 2d. change, he said that that was the third time he had had 4d. and 2d. given him that morning; and as that was about one o'clock he was acknowledging that he had come to that particular room three times that morning simply to get a glass of sherry. In dealing with business men, he held it was well that doctors should caution them against a practice which he thought was most seductive. He had had to work very hard, not only in his business—but he had not devoted himself wholly to business—he had had half-a-dozen things on his hands, and his friends had continually told him he ought to cut off those extraneous things, and not work himself so hard. When he was a young man he was conscious of a liver, he was often what many people complained of—bilious. For the last twenty years he had lost all consciousness of having a liver; he supposed they would tell him he had one, but he was in sublime unconsciousness of its operations and functions, and he attributed that immunity to his habit of total abstinence. Teetotalers, while they thanked medical men most heartily for the aid and assistance they had given to the temperance cause, yet thought that they would be inclined to acknowledge they had accumulated a body of evidence and facts, not only here but in India, America, and in our colonies; in the Arctic regions, in every extremity of climate, they had obtained a body of evidence and facts which were of the greatest value to medical men. He would just mention one fact which was told him the other day, the experience of a lady living in the neighbourhood of London. She was out of health, and applied to her medical man. He recommended her to take a glass or two of wine a day; he said it was necessary. She applied to her husband, and out of his love to

her he went and purchased for her the choicest port wine that money could buy. He said, "I don't care to put this on my table, it is too expensive; I put it under your charge, and take it as your doctor tells you." In a short time the lady came to her husband and said, "I think this wine has done me good; but it is all gone. I want some more." The gentleman lifted his eyebrows, and thought the lady did not understand the value of the wine she had drunk. He went to town; the lady began to think, and presently the thought flashed upon her mind, "Good God! I am getting to like this; I am getting to love this wine." She took instant resolve. She telegraphed to her husband at once, "Don't send any more wine," and she made the resolve then and there that she would never taste another drop. She is now resident in a suburb of London, occupying a useful position in temperance work. This fact she told in a drawing-room as an illustration of the danger in which she was placed, and one which medical men would do well to bear in mind in ordering the administration of alcohol.

Dr. JOSEPH ROGERS, of London, said if he took upon himself to address a few words to them upon that very important question, it was not that he was a member of a temperance society, or that he had stopped drinking all spirits or all wine; but simply to express to the medical profession how strongly it was imperative upon them to lend a helping hand to that movement. Now, he had been a workhouse surgeon in London for twenty-two years, and he had under his charge a very large number—an average population of some 2,000 persons a year. In consequence of that, he need not tell them that he had had a large personal experience, and he had no hesitation in saying that the great bulk of the ailments that came under his observation were traceable to the evil consequences of drink. Indeed, to him it was one of the most painful and pitiable exhibitions that he was constantly called upon to witness—men and women brought into his place suffering from the effects of intem-

perance, and after he had recovered them from the illness which they had brought upon themselves by their vicious habits, he had no alternative but to allow them to walk out of the place again and return in a similar condition. When Dr. Dalrymple went to Mr. Bruce (now Lord Aberdare), he accompanied him, and he pointed out to Mr. Bruce that in dealing with the question of habitual drunkards, he should begin with the lower stratum of society; that in sickness and distress they had to keep the paupers, and that they should have a restraining power over a pauper whose ailment was brought on by his own intemperance. He pressed that question home, and he could not but take that opportunity of pressing it on the attention of the gentlemen in that room, and, through any reporters that might be present, on the public. The propriety of dealing with that section of the community was one which would not only be a step in the right direction by stopping the intolerable curse and nuisance of drink to all those who had to deal with that class of people, but also as the saving of their bodies and souls. He had persons in his house at the present time who had been in and out over and over again, who could not be trusted with a shilling without going and spending it immediately on drink. He could not help fancying that some step might be taken in the direction he had suggested, whereby that might be stopped. Then as regarded the general supply of stimulants to the lower classes, the whole question was of importance, and one of the most difficult and painful that could be. He spent a quarter of an hour every morning in entering into the merits of applicants for stimulants who came to his infirmary. It was a most intolerable nuisance to him, and if he could throw it off he should be delighted beyond measure. He was placed in the most painful position of determining whether he should give or withhold. He need not say in that room—seeing so many medical men around him—how huge their experience must be of the direful results of excessive drinking. During

the past fortnight he had signed the death certificates of two women who were respectable. One was pew-opener of a church in London, and the other the wife of a respectable man who took the pledge twenty years ago, and was now a healthy man, whilst his wife had gone to the grave in consequence of her intemperance. In London the intemperance one was brought into contact with was one of the worst features of their profession, and any step which could be taken in support of the movement whereby that curse might be diminished would be hailed with favour. It was a question, too, which affected their own ranks. Very few of them had been able to escape the effects in their family circles. They had the same curse, and when it came home in that way it was very disagreeable. It told in more ways than one on the wife and family; it brought discredit on the name, and took some to the workhouse. He assured them—though he did not say that he was going to abandon his glass of wine; he did not say he had gone so far as that yet, because he thought he had sufficient control over himself to prevent his going to excess—but he did wish the League God-speed in the effort they were making to get rid of the drunkenness amongst them. They must bear in mind that they had hideous difficulties before them. They had in the House of Commons a large number of persons directly interested in the sale of intoxicating liquors, and they must remember that the present Parliament was elected solely through the influence of the publican—and that the Government of the day were terribly afraid of the publican interest. They must face that difficulty thoroughly and completely. Well, he would not say any more.

Dr. JAMES THOMPSON, of Bideford, said he did not hand his card to the chairman with the wish that he should call upon him to address that meeting, but merely to announce himself to him. He was a very old man in the temperance question. When he was at the University College, London, he was commonly known by the *soubri-*

quet of "Teetotal Thompson," because he was rather prominent in entering into discussions respecting the value of alcoholic drinks in the treatment of disease. He might say in proof that at that hospital he thought they used less stimulants than were used at many of the old borough hospitals at the time, and from what he saw during his pupilage and during his hospital attendance, he had strongly the conviction that alcoholic drinks were used far too largely in the treatment of disease. For himself, he became a teetotaler some forty years ago, and he ever since adhered to the principle, and he might say very strictly to the practice too. He was not an enthusiastic teetotaler. He wished to look at things from a scientific point of view, and he was not certain that he had attained a precise knowledge of the physiological effect of alcohol. He did not say it was absolutely useless; he was far from saying that. One thing had struck him, and that was its property of producing obesity. He did not think that the corpulent habits induced by imbibing were sufficiently explained, why people who took alcoholic drinks should become stout. Now, for himself, it was his wish to say that he believed he owed a good deal of his present health to the habit of temperance, for had he been an imbiber he supposed by that time he should have become so stout that he should have been unfit for practice. He would add his testimony to the fact that, having seen the operation of temperate habits in contrast with intemperate habits during a period of some thirty-six years, he was firmly convinced now, as he was in the days of his boyhood, that temperance was the best practice, both for medical men and for their patients too. He was surgeon to an infirmary and workhouse infirmary, and had a very large population under his constant charge; and one fact had particularly struck him, that the inmates of his union workhouse infirmary were not very cognizant of the possession of their livers, for if there had been one class of ailment that they were exempt from, it was indigestion. He never

gave them any liquors, and they were put upon a regulated diet. A great many of them were old stagers in drinking, but they got marvellously better. He trusted the medical profession would look upon the temperance question in that calm way in which men should, and in that philanthropic way which he believed they would for the advancement of the social, moral, and physical improvement of the people of this country.

Dr. SAMUEL HOLDSWORTH, of Wakefield, said it was always a very satisfactory circumstance to him, in attending the British Medical Association, to go to the breakfast which was usually given to members of that society, and on that occasion it was rendered doubly so to see presiding such a veteran as Mr. Samuel Bowly, who had been so long known, not only as an advocate of temperance, but of total abstinence, to which he (the speaker) had for something like thirty or forty years belonged. During the observations of his medical career he had lived to see an enormous change come over their own faculty, and he observed this with the greatest pleasure, because he had seen the greatest amount of indifference in the early part of his career in regard to medical men taking up the subject of temperance and total abstinence. But now, as had been observed that morning, he had, during the last ten or fifteen years, noticed a great change, and the faculty was on the highway to assist the total abstinence cause. He wished especially to name that, because they had been, and he was sorry to say on some occasions those who had advocated the cause had been, as it were, slighted, and their society and the faculty generally had been looked upon as encouraging too much the cause of intoxication. He wished particularly that morning to say that the medical faculty had been trying to do its best in the cause. He had sometimes been disposed to think that they had been looked down upon by the clerical party, by the clergy and ministers of the Gospel, and they found it too much the case in their practice, as they went about, that a patient

said, "Mr. So-and-so (meaning the clergyman or minister of the district) has been to see me, and he says if you think a little wine will do me good, that he will order it for me. He will send me a bottle." He did not want to go into long details, but the other evening he was in conversation with an old medical man—a temperance man—and he told him that he had been speaking to the clergyman of the parish, and he allowed him to have his fling, as they said in Yorkshire; but when he had finished, he said, "Now, Mr. So-and-so, what is about the first thing you say to one of these sick people when you go into the house? Don't you ask if the doctor has ordered them a little wine?" "Well," he replied, "I never saw the thing in that light before, but when I come to think about it, I am afraid it is the case that we do too often put that question." The clergyman was a practical total abstainer, but he immediately saw where they were committing an error. He wanted the clergy to think more about it than they had done. He believed in many cases the poor people, in their anxiety not to offend their pastor, did not like to say, "We don't want the wine, sir." They knew if it once got into the house, if the patient could not drink it there was somebody else who could. Whilst they were doing what they could, the clergy and ministers of the Gospel, and also the wives of the clergy, were working in the opposite direction. He was persuaded that they (the doctors) were not the only men who did the mischief, but that a great deal of good might be done by others in the way of encouraging moderation.

Dr. J. MILNER FOTHERGILL, of London, said he supposed it did not absolutely follow that because they came to a temperance breakfast they were all teetotalers. He was sure that they were all for the temperance cause, and for forcing the question upon the profession, but he thought that they might fairly say that the medical profession had taken the question up in a spirit of true earnestness, and of genuine inquiry. He thought there could be no doubt that the profession

had done a very great deal to further the principle of decreasing the use of alcohol among the laity. Of course they knew that those people whom they would like to reach, and those people among whom it was necessary that those sound views should exist—the lower grades of society—could only be so reached by the upper classes setting a practical example. There was no doubt about it, that in the profession, as well as out of it, the spread of practical abstinence was greatly on the increase. He knew a very large number of men who did not take alcohol, who did without it; for himself he was a practical abstainer for eighteen hours out of the twenty-four. He was asked: "But, Dr. Fothergill, do you drink all the other six hours?" He replied, "No;" and that it was a very good thing for men to do without alcohol at least during the hours of the day when they were at work. He was certain and positive that the effects of alcohol were most deleterious during the time men were at work; he was perfectly certain that it was better for them to take it when the day was over; and he added that there was a man who had come from America to Europe to study the facts in order to introduce the practice of moderate drinking in the valley of the Mississippi. He would not, however, discuss that question. Medical men felt that in some conditions alcohol was the only food that could be taken, but he wished the temperance party would leave that side of the question and not discuss alcohol from its merely food side, because they knew that before a man could get a substantial meal of alcohol he would certainly be dead drunk. He wished to make another remark. Last year he dwelt on the amount of drinking brought about by the medical profession—that it was habitual to order alcohol in or out of season. The leading and authentic portion of the profession were very grave and earnest on the question; but a certain proportion of medical men did order alcohol to children and invalids, not because they felt it was absolutely necessary, but because they knew if

they did not do it the patients would go to some other doctor. There was no doubt, however, that those men were the exception, and not the rule, in the profession, and that the temperance party could not wish the profession to take a more earnest or thoughtful view of the question than they did at present.

Mr. GREENLY, of Bristol, said he held that the practice of drinking intoxicating liquors was altogether unnecessary. They need only go to the fact that some persons passed the whole of their lives without drinking any intoxicating liquors at all. It was only required just as doctors might need to give opium under very painful and distressing circumstances. There might be circumstances in which the nervous system was so prostrated that for a time it was necessary. In the great majority, however, it is unnecessary, and in a vast number of cases it is utterly destructive to health. He mentioned that as a fact. He had a patient for twenty or twenty-five years, who was in a large way of business as a farmer and dealer in horses. He was repeatedly taking what he thought necessary to take, namely, spirits, and he became very much diseased. He (the speaker) remonstrated with him many and many a time. At last, some few years ago, he paid him a bill towards a hundred pounds for himself only in one year. He said, "Rather a large bill;" to which he (Mr. Greenly) replied, "Mr. Richard, you have yourself to thank for it, and not me; I have told you many a time that if you will give up this habit of spirit and wine drinking you would not pay me £5 a year. You have not quite spoiled your constitution, but in five years you will either be in your grave or a helpless invalid." Well, he heard no more from him for a couple of years, when he had two ribs broken, which was some four or five years ago. He remarked to the housekeeper, "How is this that I have had nothing to do with Mr. Richard lately?" She replied, "Well, when he paid you that large bill you said if he had no spirits or wine he would not have to pay you at all. He has abandoned the habit."

He had, fortunately, a good constitution; he had recovered, and, he believed, bid fair to live to a good old age. It required firmness and determination to carry out that, as the habit was so strong. He looked, however, to the influence of society in the matter, and to the establishment of tea and coffee palaces as in Liverpool, with all the attractions of the gin-shop, to aid in the promotion of temperance.

Dr. HEYWOOD SMITH, of London, said he was not an advanced teetotaler; he had been trying it for only a twelve-month, and that not entirely, half-a-dozen times in the course of the year excepted. As his special work led him more to deal with ladies than some of his professional brethren, he wanted to insist upon and to ask them to bear in mind with regard to their prescribing for females, that if ladies got into the habit of taking small quantities of alcohol, the habit was much more persistent with them than with men, and they had less ability to throw it off than men. He had seen them fight with the moral courage that women had against it, and perhaps keep from it for some months, and then it got over them, and they had a thorough bout, as it were, the intervals got less and less, until, he was certain, that with women intoxication and intemperance assumed a proportion that was something fearful. What he wished to impress upon his professional brethren was that when they considered it necessary to prescribe alcohol, it should be prescribed with more care, and as medicine—they should order definitely, not merely to order wineglassfuls, because the glasses differed in size, but an ounce, half-ounce, or according as they deemed it absolutely necessary for the disease they had in hand. He thought if medical men would take that care, and treat alcohol as definitively a gift of God and a restorative, and so use it and prescribe it definitely, much of the evils of drink which now seemed to surround us would be got rid of.

Dr. F. VACHER, of Birkenhead, said he thought it would not be proper for him to attend that breakfast without

at all events mentioning a circumstance which had come to his knowledge during the past year. He might mention that he was physician to a fever hospital, and that during the year 1877 the town where he was suffered from a very severe epidemic of smallpox, during which upwards of six hundred people were affected. Of that number many were treated at home—the largest proportion—122 were treated at the Union Hospital, and 120 were treated at the hospital of which he was the physician. Of those who were treated at home it might be estimated that part of them would be treated in part with alcohol—at all events those who were treated at the Union Hospital were treated as a rule with alcohol—the medical man who was the workhouse surgeon was one who believed that alcohol is a *sine qua non* in fevers. Those who were treated at his (the speaker's) hospital were treated without one single half-ounce of alcohol throughout. The proportion of deaths, when he came to report on the matter to his township, he found to be that 14 per cent. of those that were treated at home in their own houses died, 21 per cent. of those who were treated at the union, and 12 per cent. of those who were treated in his hospital. That was bringing the matter to figures, although he did not wish to place too much importance on mere figures, and he was quite aware that there might be some exception taken to the fact that those patients who were sent to the Union Hospital would be, so to speak, from the residuum of society, and would be a rather lower type than those sent to the ordinary hospital. But at the same time when in the one case twenty-two per cent. died, and in the other only eleven, he thought it told in favour of those who were treated without alcohol.

Mr. S. S. ALFORD, of London, said that having the obstinacy himself to be a teetotaler, he could bear testimony to the opinion that stimulants are not necessary, that he was stronger, more vigorous, and more reliable without them, and weaker with them. He felt that they could

generally be done without. What he wished to bring before them as a practical observation—for of course the Temperance League wished to do all they could to restrain intemperance—was that it seemed to him that a great deal of energy was lost in their efforts. First of all some of their advocates seemed to make it a religious principle that every one must and shall abstain, and they were called rabid teetotalers. A gentleman said to him yesterday, “I am not going amongst you rabid teetotalers.” So much was done by excessive agitation, and the effort which was made to make that a religious principle, which they could not do with regard to total abstinence or temperance. With regard to the licensing system and Sir W. Lawson’s Permissive Bill, if he would only spend himself in something practical, and not in an impracticable effort to carry out the Maine law in this country, he thought more good would be effected. As regarded the licensing system, he felt that a monopoly in public-houses did keep up and produce intemperance. Upon that principle he used to sign for the monopoly to be broken down, and held also with Mr. Gladstone’s movement for giving grocers licenses, on the principle that public-houses ought not to have the monopoly. Attention must also be directed in another way. Publicans were called licensed victuallers, and he would suggest that all their means and energies and efforts should be used to make public-houses simply victualling houses—eating-houses. That no house have a licence which was not *bond fide* an eating-house. There were no public-houses in the Strand, but plenty of eating-houses, where every one could have stimulants if they liked; but by licensing merely drinking-houses the legislature was keeping up drinking and the monopoly of a few here and there. With regard to the habitual drunkard, his condition, he held, did not proceed so much from the opportunities for drinking, as from the peculiar idiosyncrasy or peculiarity of constitution, and was more or less founded upon a species

of insanity. The experience he had was that it began with insanity, which was only aggravated and carried on and promoted by stimulants. Only the other day, in the case of a lady who had a sort of hysterical mania, the nurse gave her an unlimited amount of stimulants whenever the attacks came on. That lady was now an habitual drunkard. The bill which had now passed through committee of the House of Commons, and which might possibly be passed this session altogether, was simply to allow any one to be under continued control, that persons might have the power when the attack came on to place themselves under restraint. The number of such establishments throughout the country showed the wish of people to recover themselves from that dreadful habit. If the Act was not passed this session it would be next, and by its provisions if those who entered such establishments when under the influence of the habit, and when once in demanded to come out, they would not be allowed to do so.

Dr. W. H. D. BRADSHAW, of Weston-super-Mare, said that, as a young practitioner, he wished to back up what Dr. Heywood Smith had said with regard to prescribing alcohol in ounces. He should think it a much wiser course that it should be prescribed as other prescriptions and sent to the chemist’s shop, where it could be dispensed in the shape of spirits of wine or of ammonia, instead of sending to the licensed victualler or wine merchant. In that case they would prevent a patient having an unlimited supply. Medical men have it in their own power then of cutting off the supply when necessary, instead of letting patients have wine or casks of ale in their cellars. When they ordered strychnine and other poisons, they could stop them when necessary, but in this case patients had it in their own houses. The unlimited drinking-houses were increasing rapidly, but by prescribing drink as a medicine and not as a stimulant they could restrain its use.

Mr. GEORGE BROWN, of Islington, moved a vote of thanks to the presi-

dent and Council of the National Temperance League for the handsome way in which they had invited the British Medical Association to breakfast on that occasion, and the opportunity they had given them of making known their opinions and views with respect to the movement in which the League were so earnestly and usefully working. With respect to the use of drink in medicine, it had been suggested that they should prescribe it in measured quantities to their patients. That was all very well, but they should bear in mind also when they began the equally important principle of leaving off. There was a time when it was good, and a time arrived when it did absolute harm. It was equally important for them to tell their patients that the future use of alcohol would do them absolute harm, although at that time it did them good. The impression had gone abroad that alcohol was absolutely useless, especially in the case of fevers. He was quite certain that they did now and then meet with cases in which alcohol was the only thing that they could give. He was absolutely certain that he had saved life by alcohol and alcohol alone, but it had been given only for a very short time, and in very small quantities at the crisis of the disease. They knew it acted as a stimulus and as a strengthener, and it was, he said, the best antiseptic medical men could administer internally. He hoped that those who had not made up their minds would study the question, and watch its progress, giving it in doses hour by hour. The alcohol could be administered in very large and very frequent doses, and he had watched the pulse, which had gone down so that he had not been able to count it, gradually go up under the influence of alcohol. Before he sat down he wished most cordially to return on behalf of the members of the British Medical Association present their best thanks to the president and council of the League for the very handsome way in which they had received them that morning.

Dr. NORMAN KERR, of London,

seconded. He was sure that the medical profession throughout the United Kingdom, and he might say throughout the world, would feel that they were under a deep debt of gratitude to any society of gentlemen, composed principally of laymen—though there were medical gentlemen among them, as well as clergymen—which had done such noble work in the cause of temperance, to give them that opportunity of discussing it. They valued it still more because they were able to abuse the principle of abstinence as they pleased, but the preponderance of what had been said was on its side. In fact it went further, and they had teetotaler after teetotaler, and non-abstaining doctors rising and speaking just as much against alcohol as the most bigoted teetotaler would desire. The mere fact of his friend, Dr. Heywood Smith, rising and saying that, with the exception of five or six times during the past year he had been trying the principle of abstinence, was a very good proof that those meetings did good. If the whole of the profession adopted the principle of total abstinence, they would be recommending to the world at large the practice of personal total abstinence, and by the great though silent influence of this example they would be doing such a work as would redound to the highest credit of the medical profession, and add something at all events to the spread of morality, virtue, and religion throughout the world.

The CHAIRMAN, in acknowledging the vote of thanks, said it had given the representatives of the League great satisfaction to meet so many members of the medical profession that morning. He would say that his faith with regard to the movement lay in the change of our social habits. It was not the medical use of alcohol, but it was the putting of the wine bottles on their tables day after day and keeping up that system of drinking among the better educated classes of society. How could they expect that the servants who waited at their tables and saw drinking going on on the part of educated and well-intentioned men

could do so without following the example? Personal total abstinence was extremely easy. It was not so easy to put the wine off their tables, and for several years he did not put it off his own table. He believed, however, that total abstinence was perfectly easy in any society now, and he thought they could never better support that great cause than by setting an example of personal abstinence on every occasion they possibly could.

Mr. P. W. G. NUNN, of Bournemouth, said he was a practitioner of medicine and surgery, and also a public health officer, and if there were any medical officers of health present, he would say that if they wanted to keep down their mortality tables, and were interested in keeping down the death-rate of the country, he felt sure that they would have to rely on the extension of the National Temperance League, and other temperance societies in the country, before they could expect to get any real results conducing

to a low death-rate. He spoke as medical officer of health to one of the most noted sanatoriums in England—Bournemouth. He believed their death-rate was lower than any other place in England. At the last licensing meeting there, nine new licenses were applied for from the local magistrates—one was refused and the others were granted. A body of gentlemen were established at that time as a liquor traffic committee, it being thought necessary, from the rapid increase of public-houses, that something should be done to stop it, or otherwise they would not maintain their reputation for a low death-rate. Although the licenses were granted, the committee were not content; they took the matter to Winchester and beat the lot. They intended to do the same whenever they showed their heads again. If they wanted to get good mortality tables, they must put down the public-house and the drink-shop.

The proceedings then terminated.



ON THE SYMPTOMATOLOGY OF ALCOHOLIC BRAIN DISORDERS.

By ROBERT LAWSON, M.B.,

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THE large number of cases of insanity which owe their origin, directly or indirectly, to excessive drinking not only makes the observation of such cases, when massed in a large asylum, comparatively easy, but renders it necessary that an accurate knowledge of the varieties and tendencies of this form of brain disease should be arrived at. In the notes which I am about to record I shall not presume to aim at anything like a complete study of the subject, more especially as Dr. Magnan's excellent work on Alcoholism, translated by Dr. Greenfield, has so recently been placed in the hands of the English public. My motive will be to record, in as simple a manner as possible, some casual

observations which have been almost thrust upon me while engaged as an assistant medical officer in asylums which have provided shelter and treatment for the insane alcoholic patients of the densely-populated counties of Middlesex and York. For my own convenience I shall speak of cases of alcoholic brain disorder under two heads. The first class of cases will embrace those of which the prominent characteristic is that they show a temporary interference with, and morbid intensification of, brain function. This class will include *delirium tremens* and *mania e potu*, and the classification is, I think, more accurate than would be the case if I were to speak of these disorders as being

simply acute; for though they may be acute in the sense of being severe, they are not acute according to the meaning which the term is generally employed to convey—as running a short and definite course. The presence in the blood and tissues of a poison which it is necessary to eliminate, and the existence of a delirium which multiplies itself as long as the deterioration of nutrition and the instability of the nerve-centres combine to maintain it, constitute a condition which renders precise limitation of the symptoms and course of the disorder impossible. Without any apparent difference in the constitution of a patient, or in the means by which the mania has been induced, the intense furor which sometimes accompanies alcoholic brain disorder may disappear under treatment during the course of a single night, while under precisely the same appreciable conditions the excitement may in another case continue for weeks. In both cases the etiology, the treatment, and the issue may be the same; but the mania is a factor of so versatile and mobile a character that, though the general and ultimate effect of sedative and nutritive treatment may be safely anticipated, the time which will be required for the production of a good result can never be even approximately determined.

Under the second head I shall speak of cases which are characterised anatomically by an essential variation from the normal structure of the contents of the cranial cavity. This group will embrace cases of chronic alcoholic mania not passing into dementia; cases of dementia of which the principal feature is almost absolute loss of memory for recent events; and cases which either verge upon or merge into general paralysis of the insane.

Under the first head I shall at present refer only to the state which bears the most characteristic name—*mania e potu*—inasmuch as simple alcoholic delirium is a disease with which general practitioners are more familiar than specialists in lunacy. When admitted to asylums, patients

suffering from *mania e potu* closely resemble each other even in the details of their history, the nature of their excitement, and in the circumstances of their admission. They have generally undergone an initiatory experience in the police court and the strong cell; are not unfrequently brought to the asylum at night, as if a sudden resolution had been arrived at as to the advisability of regarding the patients as the victims of a disease essentially different from an ordinary attack of delirium tremens. At times the maniac is firmly secured and accompanied by a body of policemen. His suppressed excitement manifests itself in his expression, which varies in the same individual from abject timidity to sudden and violent emotion and aggressive impulsiveness. The infliction of restraint intensifies the mania in more ways than one. By the employment of force the patient is confirmed in his belief that evil is in store for him, and is driven to bay by the feeling of utter helplessness which, as an external reality, combines with the insane timidity alternating with his outbursts of aggressive excitement. His inability to look upon things in a rational manner places him in a position which corresponds with the experience of an animal in inhaling an anæsthetic. In him the humane motive has the appearance of a purely hostile design, and he experiences all the agony which results from the entertainment of vague notions of coming evil. When relieved from restraint the patient's excitement is almost invariably alleviated, and the administration, forcible, if necessary, of liquid nourishment and antacid effervescent, with bismuth and opium, is frequently followed, with comparative speed, by refreshing repose. Sometimes, as I have already said, the effect of concentrated liquid nourishment and sedatives is so marked that one administration is sufficient to produce a comparative removal of the excitement, and the patient begins to be sceptical about the hallucinations which he so recently acted upon with avidity and energy. By a continuation

of treatment, and by freedom from restraint, he resumes his former calmness of demeanour, and can not unfrequently fix the exact time of his own recovery by being able to employ his memory in going back, step by step, to a particular hour when reminiscence, first becoming difficult, gradually becomes impossible. He cannot remember the incidents of his excitement, and has only a dim recollection of the nature of his delusions and hallucinations. Unfortunately, however, cases so gratifying in their issue are not often met with. The primary effect of sedation is almost always good, but probably in the middle of the night the patient's sleep becomes less sound, peripheral irritations of a somatic or emotional nature thrust themselves upon the consciousness, and the dreamy thoughts which naturally crowd into the mind 'twixt sleep and waking again arouse delusions and hallucinations. The patient cannot control his terror or analyse his sensations, and he tries to escape from imaginary foes. If in a single room he may attempt, and sometimes with success, to pass through an iron-guarded ventilator, the aperture of which would seem to the inexperienced to be altogether incapable of allowing the passage of a human body. If in a padded room, he knocks himself about in wild confusion; and if in a dormitory, he generally makes a sudden dart from bed, and rushes wildly forward in search of some place of safety. But even in such a case the prognosis is rarely unfavourable, and after several sudden outbursts of excitement the maniac—strengthened by the regular administration of digestible and highly-nourishing food, relieved by elimination from the irritating effects of alcohol on the nervous tissues, and soothed by kindly treatment and by such remedies as opium or digitalis—usually regains the use of his reason without showing the slightest trace of dementia; and, after a period of convalescence, is discharged recovered—to resume his ordinary employment, and, unfortunately, in too many cases, to resume also the indulgence which

compelled him to pass through so trying an ordeal. Though it is evident that in such cases Nature herself performs the greater part of the cure, yet there can be little doubt that some benefit can be obtained by judicious modifications of diet and by the administration of medicines. In the West Riding Asylum I have, both in this and other forms of severe mania, seen marvellous results produced by the use of a very highly-concentrated essence of fresh meat. This essence is made by placing in a porous covered jar three pounds of fresh meat, free from bone, cut small, and without fluid. The jar is placed in the steam-cooking chamber and allowed to remain till the meat is seen to have yielded about a pint of essence. It is salted and simply seasoned with pepper, unless otherwise ordered. With regard to the medical treatment of such cases, I have always placed most reliance on the administration of moderate doses of opium combined with ℥j. or even ℥ij. doses of liq. bismuthi. Dr. Magnan in speaking of such cases as those to which I have just been referring, says that it is rare in alcoholic mania to have exalted delusions. I have met only one case of pure mania *e potu* in which there were delusions of exaltation. Dr. Major, of the West Riding Asylum has kindly permitted me to peruse this case for the purpose of making a few comments upon it. The patient had had several attacks of mania, all occurring during or after bouts of drinking, and the attack which led to his being brought to the asylum seems to have been one of the worst. Before his arrest he had been collecting crowds in the street, making remarks to them about his great ability, and, in gratitude for their patience in listening to him, had been in the habit of supplying them with drink. When taken before the magistrates, he made a witty defence, which occupied about forty minutes. He talked a great deal about his accomplishments, the colleges he had attended, and his numerous dealings with the aristocracy. Both before and after his admission to the asylum his actions

and conversation were characterised by considerable wit and humour. In the prison he constructed an effigy of himself, suspended it by the throat from a fastening, and made signs of distress to attract the attention of the warders, who rushed in, after he had hidden himself for the purpose of enjoying their consternation at witnessing the apparent suicide of their prisoner. When on the way to the asylum, he asked to be allowed to look at the certificate, intending to secure it, so as to be able to act the part of a relieving-officer and hand over the warder who was conveying him to the asylum. On admission he was very talkative and witty, and tried to get a reputation for knowledge of languages. He spoke in Latin, but when answered in the same tongue was unable to maintain the conversation. He represented himself to have been a captain in the Engineers, and to have bought a public-house for £5,000. This patient made a good recovery, and was discharged in about two months.

This is, no doubt, a somewhat uncommon form of alcoholic insanity, inasmuch as in this instance alcoholism seems to have been an exciting cause acting upon a predisposition to well-defined recurrent attacks which were but slightly tinged with the particular influence of the exciting cause. The only delusions of suspicion which he had were against the police-officers who had arrested him. Two points connected with these attacks of mania *e potu* seem worthy of passing notice. The first is, that one frequently meets with cases in which, within a comparatively short space of time, six or eight, or even more, attacks have occurred in the same individual, from all of which he has recovered without the least trace of consecutive dementia. It appears that if the vessels remain moderately healthy, the mania is due to the actual saturation of the tissues with alcohol, and to the tendency which one series of delusion has to cause the formation of another up to the time when the alcohol has been eliminated, and the excitement subdued by proper nourishment and

sedatives. The second point is, that a hereditary and collateral tendency to insanity appears to be more than usually common amongst the victims of mania *e potu*.

In proceeding to speak of the forms of alcoholic insanity in which the presence of some organic change in the cerebral vessels, or the brain substance, is supposed to exist, I have first to mention a form of chronic mania produced by alcoholism which Dr. Magnan seems to have omitted from his classification. In our English asylums there are numerous cases in which the alcoholic disease manifests itself in the form of recurrent attacks of excitement, generally based upon some delusion of suspicion, or some hallucination of the special senses. Such cases may be of very long duration, and may undergo no change during the greater part of their course. They may commence as uncured cases of mania *e potu*, or they may be the result of a gradually-developing mania arising from the constant abuse of alcoholic stimulants for prolonged periods. That they are characterised by a decided predisposition to insanity is shown by the fact that they sometimes occur in very young patients, in whom the constitutional condition must have favoured the development of the mania. One of the most typical instances I have ever seen was that of a youth, who was about twenty-one years of age, and in whom delusions of suspicion and hallucinations of sight and hearing were developed with great fertility. A leading feature of these cases is that sometimes the patient may be quiescent, tractable, and industrious for a considerable time, unless his delusions are voluntarily or accidentally aroused; but when they are touched upon his excitement is extreme. He threatens violence, and seems frequently to be on the point of employing it, but rarely does so. His speech is voluble and vituperative, and his movements agitated and rapid; but he is comparatively coherent, shows no defect of memory, and no other sign of dementia. In rare cases the patient is sullen and

intractable, and given to instantaneous outbursts of violence, of which he offers no explanation, and which assume a homicidal or a destructive character. Such a patient is one of the most dangerous of asylum inmates. Cases which manifest the symptoms of chronic alcoholism of the variety under consideration, present a wonderful uniformity in the nature of their delusions. They are essentially delusions of suspicion. The patients imagine that they have been forced to sleep upon damp beds; that poison has been placed in their food; that electricity has been brought to play upon them; that they have been drugged with morphia, dosed with chloroform, or stifled with sulphurous fumes. They are tortured with voices using the most obscene and threatening language, and regard themselves as victims operated upon by hidden agencies, which act with a subtlety greater than that of magnetism or electricity; and though, when their hallucinations are excessively harassing, they are sometimes driven to attempt suicide, yet their mental agitation has little effect upon their bodily nutrition, and they invariably eat well and maintain excellent health.

What is the physiology, so to speak, of these delusions of suspicion? Some consideration of the subject has suggested to me a principle which I think will hold good, and which will suggest the explanation of such delusions in chronic mania from alcoholism. The principle is that in all cases where the brain tissues, while retaining to a considerable extent their integrity of function, do not receive their proper and sufficient supply of nourishment, delusions of suspicion are apt to occur. Take as a typical case the condition of the mental functions in old age. The advanced senile dement has no delusions of suspicion, but the patient in whom brain-wasting has made less progress, and in whom the physiological tendency to decay is supplemented by privation, shows marked delusional suspicions. He thinks that his friends are "against him"; that they drug his food, lay plots for the

subversion of his interests, or long to be free from the responsibility of his maintenance. The pathological condition in such a case is one which is the result of a physiological diminution of cerebral nutrition. The heart's action fails, the vessels lose their elasticity, the cerebral tissues participate in the general diminution of functional activity, and the diminished *a fronte* combines with the diminished *a tergo* force in reducing the supply of blood. To a certain extent the same pathological condition exists in chronic mania from alcohol. The heart's action is often weak, the abdominal organs often fatty, and the cerebral vessels, especially the smaller branches, are atheromatous, tough, and unyielding. A general tendency to connective tissue degeneration not unfrequently leads to increase of the neuroglia, to the detriment of the proper nerve elements. Similarly, where degraded habits have led to anæmia and cerebral irritability, the same symptoms of mania of suspicion occur; and even in simple cerebral exhaustion—as from overwork—timidity, irritability, and suspicion are apt to show themselves as representatives of the mania which might ensue if proper precautions were not taken. Frequently, also, in the earliest stages of general paralysis, when alteration of character is first observed, ungrounded suspicions of relatives and friends are manifested. The method of production of these delusions of suspicion seems to be that the modifications in the nature and regularity of the nutrient supply to the brain cells keep them in a state of excitability—in a condition, so to speak, of dissatisfaction. Now, what are the proverbial effects of hunger, regarded as a general condition? Irritability, excitability, a tendency to put the worst interpretation upon men's motives and actions, and a propensity to hallucinations of the special senses. These very symptoms occurring during sound bodily health are evidently due to the state of the brain-centres as modified by want of food and by reflex excitability. Consequently it is natural that an exagge-

ration of this condition should result from such an habitual existence of malnutrition as accompanies the organic changes consequent upon the prolonged abuse of alcoholic stimulants.

I have spoken of this condition of chronic alcoholic mania as one which remains almost stationary; but it must be remembered that one condition absolutely necessary for the arrest of the progress of such a disease, is abstinence from the stimulation which induced it. It unfortunately happens that in many cases the first signs of the accession of this mania are not regarded, and the alcoholic, scarcely recognised as being in a critical state, continues his excesses. The pauper patient—usually of comparatively low mental capacity and meagre education—when he begins to manifest symptoms of alcoholic mania, soon develops them to such an extent as to render his recognition as a lunatic imperatively necessary. It is different, however, with the professional man, the artist, the journalist, and the intelligent man of business. The working man's animal propensities usually lie near the surface; his mental operations are less highly specialised than those of the man of refinement; consequently alcoholic changes in cerebral nutrition develop in the latter an initiatory series of symptoms which are not present in the former. How often, for instance, one sees a truly brilliant man undergo a series of painful mental changes directly due to excessive and injudicious indulgence in alcohol. The ready writer, the bright and witty talker, the man of natural æsthetic tendencies (with a powerful memory and a gift of ready application) has the higher mental faculties in constant operation. He is swayed by changing emotions, and the influence of all forms of excitement, whether emotional, social, or alcoholic, is to intensify, for the time being, the activity of his naturally unstable intellect. When brought into contact with others who manifest the same intellectual tendencies, he has a natural pride in the superiority which secures for him the admiration of persons whose judgment he values; and

when exhaustion follows effort, he succeeds in stimulating his weakened powers by alcoholic drinks. For a considerable time, perhaps while the digestive system remains in such a healthy state as to ensure the supply of proper solid nutriment, this course is pursued with an appearance of success, but soon the urgent symptoms of indulgence begin to manifest themselves. The mind, unaided by artificial stimulus, becomes barren and unproductive. Sentences are written that appear to have no point, and jokes are uttered which are destitute of humour. The man who was accustomed to write with speed telling criticisms and pointed epigrammatic sentences, has a consciousness that his mind has become incapable of sustained effort, and that his writing is dull and insipid—a feeling which contrasts strongly and painfully with his previous cheering sense of power and fitness. Under the influence of an alcoholic stimulant, he finds that, for a time at least, he can again command his intellect. But the control is only a temporary one, and is followed by a greater sense of exhaustion than would otherwise have been experienced. Memory—not so much for passing events as for facts, passages, and references, which had been readily acquired—begins to become weakened, and the misery resulting from the loss of a reputation for, and consciousness of, intellectual power, supplies a new incentive to excess. Not unfrequently *petit mal* and attacks of simple vertigo ensue, still showing that the most highly-specialised reasons are as yet alone affected. At this stage no one could, as yet, be regarded as insane, though as great a change of function has relatively taken place as leads, in the more lowly-organised mind of the pauper, to the display of delusions of suspicion and hallucinations of the senses. After, this, however, if alcoholic indulgence is continued, the ordinary symptoms manifest themselves. Irritability passes into suspicion, voices are heard, illusions experienced, and the mind, becoming prone to reverie, finds for itself a new and insane sphere of existence. In-

tellectual helplessness and physical changes advance. One limb may become weak, one pupil may dilate, and, if excessive or even moderate drinking is still indulged in, the victim has no other prospect than to end his days in a state of degraded dementia and muscular paralysis from progressive brain-softening.

There is another well-pronounced class of cases which owe their origin to excess in alcoholic drinks, and which possess some interesting features. In this class the patients are generally advanced in life, are not unfrequently women at the menopause, and generally bring with them a history of excessive drinking suddenly abandoned. The feature of such cases, which is sufficiently striking to give character to them, is the almost absolute loss of memory for recent events. The patients are cheerful, attentive, understand what is said to them, and show little dementia as far as simple processes of reason are concerned, but are absolutely destitute of memory for passing events. When the medical officer makes his visit (perhaps the third in the course of the day), and asks, "Have you seen me before?" the patient asserts that he or she has not; and the constant ineffectual repetition of this question at short intervals shows that the capability of retaining new impressions has completely disappeared. I do not mean to assert, however, that all such cases are necessarily of alcoholic causation, but only that they are a frequent result of alcoholic excess. In fact, I think that, in cases where organic change has been produced in the brain, the nature of the symptoms will be determined, not so much by the character of the exciting cause, as by the physiological functions of the regions diseased. The same complete failure of memory, for instance, as I have just now commented on, is frequently present in specific disease of the brain; and Dr. Major has drawn my attention to a case in which the exciting cause was the shock produced on the patient by the death of her husband. Though the mention of the circumstance of her husband's death

always produced in her the most painful emotions, it was on each occasion accepted by her as a novelty. Each time that the lamentable event was mentioned she regarded the information as something she had never heard before, and the grief she manifested was consistent with this remarkable forgetfulness. Still in other respects she was comparatively rational.

In such cases there are not, as a rule, the other ordinary symptoms of dementia. The patients are not dirty in their habits, sometimes employ themselves, are interested in immediate impressions, but retain no recollection of recent experiences. Such cases seem to begin with comparative suddenness, and may terminate—after a considerable interval, in which loss of memory has been the leading symptom—in apoplexy, epilepsy, hemiplegia (from clot or progressive softening), or in simple brain-wasting. In such cases there are no paroxysms of excitement, but there is a tendency to general weakness of the muscular system, and a cheerful expression and insane laugh, which, however, cannot be confounded with the look of fatuous rapture which adorns the face of the general paralytic.

The last class of cases of alcoholic etiology to which I shall refer, are those which are frequently difficult to diagnose as distinct from general paralysis. They simulate that disease strongly, and may even merge into it. They occur principally in men somewhat beyond the age commonly assigned as the period at which general paralysis manifests itself. In one respect, also, they are peculiar, inasmuch as the history of the cases generally begins with an attack of what would have been formerly described as brain fever. An attack of cerebritis in a man of forty-eight or fifty, who has been much addicted to alcohol, may leave him in a state of almost absolute dementia and partial paralysis. When he attempts to stand, his knees bend under him. He is degraded in his habits, and eats ravenously. He rarely speaks; but, when he does, it is usually to express exalted ideas. His manner may be

habitually sullen, or constantly cheerful and fatuous. For a few months his symptoms may show no modification, when suddenly he may burst out into an attack of aggressive excitement. He shows symptoms of a new attack of encephalitis, and, though completely helpless, manifests by his conduct the presence in his mind of delusions and hallucinations. His attempts at violence towards those of whom he knows nothing, and whose motives are humane, show the existence of the former, and his rushing or striking at imaginary objects is sufficient evidence that he is actuated by the influence of the latter. Self-mutilation reveals the existence of some important mental aberration, and I have known one instance in which a patient, strongly alcoholic in his history, and whose case presented such features as I have sketched, who lacerated his body with his teeth in a most serious manner. In such cases counter-irritation of the shaven scalp, and the internal administration of digitalis or aconite, sometimes produce wonderfully beneficial effects. After each attack of excitement such patients are seen to lose more and more the use of their limbs. They become more and more demented, and have recurrent attacks of excitement which close observation ascribes to groundless suspicions and half-expressed hallucinations. They are rarely convulsed, and in this respect, as well as in the nature of their delusions and hallucinations, and in the rapidity of the course of the disorder, they show a decided divergence from the typical course pursued by general paralytics. After death they may be found to have brains presenting no meningeal adhe-

sions, and little frontal wasting, but, on the other hand, showing greater evidences of inflammatory action than those which are found in general paralytic brains. The white matter is often firm and glossy, and tinged with all colours, from a delicate pink to a faint cardinal hue. The cortex is, as a rule, fairly thick and deep in colour. The small vessels are generally tough and coarse, and the large vessels atheromatous.

My object in this paper has been to speak of the features of several well-known and other less-known forms of alcoholic brain disease. I have not referred to alcoholic excess as a cause of general paralysis, except in so far as my last class of cases sometimes contains instances which merge into that disease. I consider that the relation which alcoholism bears to general paralysis is capable of a much more scientific explanation than any which has yet been offered. That explanation will, I believe, come from those who combine a knowledge of microscopy with an appreciation of the most recent views regarding cerebral physiology. I have confined myself to a statement of the symptoms of such cases of alcoholic brain disease as special privileges have afforded me the opportunity of studying, and it seems to me that experience points to the fact that excessive or injudicious indulgence in alcoholic drinks causes cerebral irritation, malnutrition, and probably inflammation, which, according to certain special conditions, lead to delirium, delusional mania, chronic excitement with exacerbations, and even to loss of memory, muscular prostration, exhaustion, and death.

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FURTHER MEDICAL EVIDENCE BEFORE THE SELECT COMMITTEE ON INTEMPERANCE.

ON the 2nd of August the fourth report (being the report of the Session 1878) from the select Committee of the House of Lords on intemperance was brought from the Lords,

and on the 5th was ordered, by the House of Commons, to be printed. It includes the evidence of Sir Henry Thompson, F. R. C. S., Dr. Albert James Bernays, Dr. Benjamin Ward

Richardson, F.R.S., and Dr. James Murray M'Culloch. Besides this, the report contains the evidence of other witnesses—magistrates, constables, &c.—of great importance. But our immediate object is to give an abstract of the medical and scientific evidence.

Sir HENRY THOMPSON thought there were three ways in which alcohol might be serviceable, and premised that it acted always through the nervous system. He illustrated his meaning by three illustrations:—First, that afforded by an Alpine traveller on the point of exhaustion, cold, fatigued, unable to take food, and alone, and yet having another hour's walk to do. No guides being available, Sir Henry thought a glass of brandy might carry the traveller on, and save him from a fatal sleep in the cold. The second illustration was that of a man having to face a public duty—a speech, a musical or dramatic performance, and feeling a temporary sinking or want of power. A glass of wine might alter all, and enable the duty to be creditably performed. Then, thirdly, in certain wasting diseases, alcohol prevents waste, not by supplying the material to the body, but by hindering the destruction of tissue. Sir Henry expressed himself strongly against giving alcohol to weakly children, thinking it particularly unsuited to children. In reference to the administration of alcohol in hospitals he thought it was determined rather by regard to the supposed habits of patients than by medical considerations. He had never been in the Temperance Hospital. He objected to the sudden cutting off of alcohol from a man who had been accustomed to it, but would think it better for the man that he himself should give it up by gradual steps. He thought the great majority of people in health would be better without alcohol. The particular diseases induced by drinking were those of the liver, the brain and the kidney. As to gout, "it is not the drunkard who gets gout, but the man who takes a little habitually." Sir Henry expressed himself as agreeing

in the physiological views of Sir William Gull and Dr. Brunton. Asked by the Bishop of Peterborough whether persons past the age of fifty might take alcohol with greater impunity than persons under thirty, Sir Henry said, "I object to it extremely in the young, but I have not yet found the age at which I would advise it as an habitual drink." When asked to explain the extensive "craving" in most nations for something like alcohol or opium, he referred it to "a desire for producing pleasure or for getting rid of different kinds of trouble," and thought it indicated no general physical need for such things. He considered the great majority of people suffer a little prejudice by the daily use of alcoholic drinks. People living in bad houses and foul air went to public-houses from a craving for cheerfulness and society, which becomes by force of circumstances a craving for strong drink. On the subject of restriction of the liquor trade, Sir Henry said he should be jealous of interference with the liberty of the subject, or with the wish of a minority. He believed that the drinking habits of the people of London depended greatly on a strong opinion as to the badness of London water. All drinking-water should be filtered before use. In places or countries where the water cannot be relied on—even in Italy—good mineral water can always be obtained. Except in times of outbreak of cholera and typhoid, the part which the consumption of water has in the production of disease is very small. Sir Henry said that he found himself better for taking no alcohol. If other persons were better for a glass of beer or light wine, let them take it; he found few such.

Dr. ALBERT JAMES BERNAYS, Professor of Chemistry at St. Thomas's Hospital, and Public Analyst for St. Giles's, Camberwell, and St. Saviour's District Board of Works, gave interesting evidence on the question of adulteration. The worst adulteration of spirits is owing to the addition of varying quantities of water. Other impurities, such as fusel oil and the like, he had found only in very small quantities. Dr.

Bernays thought that the public notion that "flavouring additions" are made to spirits in order to prevent the palate detecting the weakening from water is not well founded. He thought that the variations in the alcoholic contents are so great as to be a source of the greatest immorality. The publicans defeat public analysts by acknowledging that their spirits are mixed with water. Many spirits are brought down by this admixture to only about half the strength they should be—gin, for example—the variation being between 52 and 85½ per cent. of proof spirit. The lowest strength he had found in gin was 42 per cent. of proof spirit, or about 22 per cent. of alcohol. He thought such weak spirit did not satisfy the craving, and a "man repeats the dose" who would have been satisfied with one dose of a fair alcoholic strength. Aniseed is very variously alcoholised. In one sample he found only a trace of alcohol, in another 19 per cent., in a third 31·97 per cent. He would compel people by law to name the limits of their adulteration. Dr. Bernays said the ethers of the best wines could be made *artificially* without fermentation. Wine was a manufacture requiring a very considerable amount of skill to conduct. On the Moselle, when the vintage is very bad, they make two butts of wine out of one—making up the difference by the addition of a proper quantity of starch sugar to give the alcohol strength, and a dilution with an equal volume of water to do away with the tartness of the wine; the quantity of cream of tartar being so large in a bad year as to make the water undrinkable. Champagne is to a large extent an artificial manufacture. An extra quantity of alcohol is put into that going to England, to suit English tastes. Ports and sherries are fairly uniform in alcoholic contents, containing, on an average, 36 per cent. of proof spirit. He had examined only two specimens of clarets, and there was nothing but the ordinary colouring in them. He was "thoroughly in favour of a larger use of light wines." Admitting he was not a medical man, he maintained that a

man would be positively the better for drinking a certain quantity of light wines. They contain from 20 to 26 per cent. of proof spirit. Upon the whole, the wine sold is wine, and not adulterated. He thinks an enormous advantage given to the ordinary citizen is being able to obtain wine at the grocer's. He has analysed a very great number of samples of beer and porter. Porter and beer, in Dr. Bernays' opinion, have diminished in value since permission was granted to use sugar; malt and hops have almost disappeared from the beer of inferior houses. Gentian and other things are substituted. Salicylic acid is put in as an antiputrescent. Sugar is added to make it more palatable, and inferior sugars contain salt. Salt, too, is contained in some well waters, also in malt and hops. He has modified his former opinion that salt is added intentionally to produce thirst. Dr. Bernays' chief suggestion for the amendment of the Adulteration Act was that there should be some compulsory regulation as to the alcoholic strength of spirits, and as to the quality of sugar employed in making beer.

Dr. BENJAMIN WARD RICHARDSON, F.R.S., was the next witness examined. We take it for granted that our readers are already acquainted with the representation of the subject of alcohol which he gave to the committee. He described the series of alcohols and produced them, and showed how they possessed the same properties, varied by their weight, their boiling point, and their solubility. He described four stages in the action of alcohol, illustrating the vaso-motor action of it by the action of nitrite of amyl, which he inhaled in the presence of the committee. He expressed the opinion, founded on experiments on the lower animals, that delirium tremens is produced always by fusel oil, never by pure ethylic alcohol; that there is persistent dyspepsia in all persons who take wine and spirits for long, and in very slight excess indeed; the food does not undergo solution. As to the diseases commonly produced from the long-continued use of alcohol, even in

moderate quantities, he would say organic disease of the stomach is the most common; after that cirrhosis of the liver with its consequences; a distinct form of phthisis described by Dr. Richardson in 1864, not hereditary, and which he called alcoholic phthisis; congestion of the throat and huskiness; epilepsy; diabetes; disease of the heart and of the kidney; dipsomania; insanity à potu, and insanity with general paralysis. He thought general paralysis, Bright's disease, and cirrhosis would cease if the use of alcohol were discontinued. Having used alcohol for many years in defined quantities, and as a medicine, he was prepared to say he could do without it altogether, and replace it by other agents, such as nitrite of amyl, &c. Sir Henry Thompson's exhausted Alpine traveller would do as well with beef-tea, or even water and a biscuit. We should all be stronger, healthier, and better, if alcoholic liquor could be tapped and made to disappear from the world. Lord Aberdare asked Dr. Richardson about the use of claret in France; whereupon Dr. Richardson, after Anstie, Parkes, and Smith, said that $1\frac{1}{2}$ ounces of alcohol in the diluted form of claret might be taken safely daily. But he qualified this answer

in an addendum by saying that he supposes it to be taken at different periods of the day, and by persons actively engaged in rural out-door life. To these even it is of no service; but to the sedentary it would be injurious.

Dr. JAS. MURRAY McCULLOCH gave evidence on the strength of fifty years' practice in Dumfries. He said at one time there were just fifteen adult males to each public-house in Dumfries. It is not so bad now. He said the protests of the respectable people in Dumfries had been "treated so scurvily" by the magistrates that they had ceased to be offered. Drunkenness among women had increased enormously within his knowledge, which he attributed to grocers' licences. He was most undoubtedly in favour of the total "local suppression" of the liquor traffic. He thought "his own profession" was to blame for a great deal of the drunkenness amongst females, but "the tide is turning against that practice now." He declared that Dr. Gardiner had "altogether" given up the use of alcohol in fever. (Is not this the case of young fever patients only?) But Dr. McCulloch said "there were cases, no doubt, in which alcohol is useful."—*Lancet*.



CHRONIC ALCOHOLISM.

FROM a clinical lecture delivered upon two cases of chronic alcoholism by Dr. W. H. Thompson, Professor of Materia Medica and Therapeutics in the University of the City of New York, and reported in the *Philadelphia Medical Times*, May 25th, we extract some useful observations on the symptoms and diagnosis.

With regard to the *tremor* observed in these cases, it is to be distinguished from that attendant on paralysis agitans by its not being accompanied by the characteristic walk of that disease, an alteration in the gait being a very early symptom associated with the commencing tremor of paralysis

agitans. It is caused by a tendency to throw the body forward, so that the patient walks on his toes. The feet, however, are not lifted from the ground, and thus a shuffling gait is produced. The soles of the shoes always give out at the toes first. Another characteristic feature of this gait is, that although the body is thrown forward, the head is carried erect and looking steadily forward, there being an instinctive effort on the part of the patient to balance himself carefully in walking. On the other hand, when there is commencing locomotor ataxia, the patient puts his heel down first in walking, while, if there is paraplegia

present, he walks with what is called a "spreading gait," separating his feet as far as possible, to get a broader base of support. The gait in hemiplegia is also highly characteristic, as in it the foot (unless of hysterical origin) upon the affected side is brought round with a swing in walking, describing in a well-marked case a complete semicircle. In hysterical paraplegia the paralysed limb is dragged after, and not swung round the other. In this affection the paralysis that is present is not local as in paralysis agitans, locomotor ataxia, progressive muscular atrophy, and true hemiplegia, but is of a general character; nor is the tremor violent as in paralysis agitans, resembling in chronic alcoholism the tremor of old age. The tremor affects all the muscles and is usually associated with more or less atrophy. This, also, unlike that seen in progressive muscular atrophy, is uniform in all parts of the body. Alcoholic tremor can always be stopped in the hand by your grasping it firmly, while if the tremor were that of paralysis agitans, your hand would also be caused to shake by it.

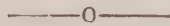
Another symptom to be noted is the *fear of falling*. It is a curious fact that this does not belong to either locomotor ataxia (except perhaps at night) or paralysis agitans. Although patients with both of these affections are very liable to fall, they do not seem to experience that fear of it which is exceedingly characteristic of alcoholism. If a patient tells you that he is frequently afraid of falling in the street (and yet has no true vertigo), you will be justified in at least suspecting this condition. This sensation of falling not unfrequently comes over such persons while walking, and frightens them to such an extent that a cold perspiration starts out all over them. It often precedes alcoholic epilepsy, in which the mind gives way more quickly perhaps than in any other form of epilepsy. Many patients have insanity in connection with the epilepsy; but, whether this is the case or not, they always experience this fear of falling first. *Dizziness* (with temporary derangement of vision, but

unattended with abnormalities), which is especially remarkable after bending or stooping down, is another characteristic of alcoholism, and gives rise to the fear of falling. It is usually first observed after the person has stooped to tie a shoe or pick up something. In chronic alcoholism the *appetite* is very bad, the patient not being able to take a full meal, being satisfied by a few mouthfuls. This distaste for food constitutes so general a rule that the symptoms of delirium tremens always depend to a great extent upon previous starvation. "I have scarcely ever seen a case of this affection where the patient had not been practically without food for six or eight days, and never one where this had not been the case for at least four days. I have met with one well-authenticated case in which the man took no food for fourteen days; and indeed it is a wonder how such patients continue to live at all. Every individual who takes much alcohol has great difficulty in eating sufficient food for the requirements of the system; and hence it is that the atrophy which is so invariably found in chronic alcoholism is due in great part to starvation." These patients also are much troubled with flatulence. They have a marked distaste for meat, and, if they eat it at all, require it to be highly seasoned. *Poor sleep* is an invariable symptom, the patient not only being unable to get to sleep at all for a long time, but also dreaming a great deal, the dreams never being pleasant ones. Hence what sleep he has is unrefreshing. When an individual states that he has had a poor appetite for years, and cannot sleep, suspicion of alcoholism ought to be aroused. More or less *constipation* is a pretty constant symptom. The *cough* observed in these cases is peculiar, as it is mainly laryngeal. It has a decidedly whistling sound, and is about as characteristic of the condition as the loud bark of hysterical cough. It may be very severe, causing the patient to become red in the face, but it is followed by no trouble afterwards, and is therefore easily distinguishable from the cough in phthisis or bronchitis, which is always

followed by quickened respiration, due to the diminution of the residual air. In chronic alcoholism the cough is simply due to an irritation of the epiglottis, and is accompanied by a diffused redness of the fauces. In bronchitis the cough often wakes a patient out of his sleep, but in alcoholism he does not cough until after he has waked up.

I have brought these two cases before you, and dwelt at length upon their characteristics, mainly, for two reasons. The first is, in order that you may be able to recognise similar ones when they occur, notwithstanding that the fact of drinking may be denied. These patients are as sensitive about saying that they are at all intemperate as others are about acknowledging that they have had syphilis; and not infrequently they deceive themselves, for they seem to think that if they do not get intoxicated the use of alcohol is not injurious to them. The second reason is, to remind you of the curability of a great

many of the cases of alcoholism. The first essential in the treatment is to get the patient to stop the use of alcohol at once and for ever; and unless you can do this there is no use in going on with the case. For the tremor, the oxide of zinc acts almost like a specific. It is also decidedly soporific in its effects, and has, moreover, the advantage of curing the gastritis which is usually present in these cases, and this greatly improves the digestion. Finally, it is necessary that you should get the patient to eat; and at first milk is often the best form of diet. Food is the only thing that can stop the craving for alcohol: and so firm is my confidence in it as an antidote to this, that I do not hesitate to say that if an individual will never take alcohol except when he is eating, I have not the slightest fear of his ever becoming a confirmed drinker. It is the drinking between meals, and especially early in the morning, that does all the mischief.



PATHOLOGICAL CONDITION IN INEBRIETY.

OUR drunkards are not made in the saloons; they are simply graduated there. They take their initiation in their own homes, around their own home tables. The father and the mother lay in themselves the foundation, and carry by a constitutional germinal impulse over to their children a constitutional liking for stimulants. This liking existing in the child as a tendency, is developed under the table arrangements into an actual appetite; and so, from the eating of stimulating and exciting foods, affecting the nerves of the stomach, there comes at length to be an irritable condition of the nerves of nutrition, and, by reflex action, of the nerves of taste; and so at length the waking up of a natural longing or desire for something to overcome the feeling of exhaustion, which, stimulants not in use, is always noticeable, and sometimes imperious in its demands.

It does not follow, however, that the appetite for strong drinks, considered from the alimentive point, is attributable only to the irritation caused in the nerves of nutrition and taste by reason of the use of highly-seasoned foods. Articles of diet which lack in themselves the constituents to make good the waste to which the nerve structures are subjected in performing their proper office, have a direct effect in awaking and producing the desire for stimulating beverages. Under a great variety of circumstances exhibited in our common life, men feel a strong desire for stimulants. That desire grows out of the starved condition of the nerves in their bodies. Furnished stimulants, this sense of starvation is overcome; and for the time a factitious result is secured which the patient makes himself believe, and perhaps his physician is led to believe, may be substantially and de-

cidedly recuperative; but, like every other fallacy, this hope of his rests on nothing; and so, in the end, the stimulants and the tonics fail him. If you were to give to this debilitated, disordered, diseased, exhausted, living body, in the way of aliment, the means of repairing its starved nerve-tissues, the desire for stimulants would perish. Under the recuperating effect of nutrients, the longing for stimulants would disappear. While this is true of a sick man whose disease is marked by nervous debility, it is just as true of an habitual drunkard.

Every man is a drunkard by reason

of the starved nerve-tissues in his body. This covers both classes of drunkards—for we have two well-defined and separate classes of inebriates—one class, whose drunkenness is a disease primarily, disease only lying in the distance; the other, whose drunkenness is a disease primarily with reflex tendencies therefrom to viciousness. But whether it be your vicious or your sick drunkard, in either case the subject is such because of the greatly disordered, diseased, debilitated nerve-tissue.—DR. J. C. JACKSON, in *the Laws of Life*.

Notes and Extracts.

A PATIENT said to Dr. John Epps, when he told her she must give up beer, "Don't you think I shall miss it?" "Yes," he replied, "but now you are missing health; is not that worse? The choice is before you."—*Dr. Epp's Diary*, p. 265.

DR. N. S. DAVIS, of the Chicago Medical College, delivered an able address on the scientific and medical aspects of the temperance question at a meeting held last month at Chicago. He said it was utter folly to talk about beer or wine being good, and brandy and whisky being bad. Alcohol was not a tonic or a stimulant, but was a retarder of life, and lowered its temperature. Every particle of alcohol is absorbed in the blood, and permeates all the tissues. Not one drop is digested, and does not assimilate. It retards the natural changes, producing debility instead of strength. It was not necessary to use it as a medicine. There are other remedies which can be used just as well, and with just as good, if not better, effect. He strongly commended the work of Dr. Richardson on Alcohol, and said he had arrived at the same conclusions some fifteen years before Dr. Richardson did. Al-

cohol was good to put serpents and toads in to preserve them, but was not good to put in human stomachs.

HEARTS OVERWORKED.—*Chambers's Journal* for the 7th Sept. has an interesting article upon this subject, in which the writer says:—"Wine is commonly said to 'make glad the heart;' but such hilarity is short-lived; and it would seem from the latest discoveries of science that the drunkard is even physically a heart-broken man. The heart is nothing more than a force-pump to keep up the circulation of the blood. The pulse indicates the beats or strokes of the pump. If the beats be more than seventy per minute in a middle-aged person, something is wrong; there has been some kind of over-stimulus. The use of alcohol increases the number of beats, just as a violent fire makes a kettle boil over. This over-action of the heart is a terrible enemy to good health. It is killing by inches. The fact, however, only breaks on people when the mischief is far advanced, and past remedy. Our counsel to habitual imbibers of alcohol is, 'Look to your pulse,' for on the proper working of the heart length of days,

in a great measure, depends. The throbbing of the heart is a criterion and guide which all can understand."

PAUPER DIPSOMANICS. — At the meeting of the St. Pancras Board of Guardians on Thursday, the 15th of August, Mr. Churchwarden Thornton in the chair, a report was brought up from the Visiting Committee of the Workhouse on the subject of the admission of habitual drunkards into the workhouse. The report stated that the grave facts in connection with this subject, with which the Guardians have constantly to deal, abundantly proved that special legislation was required for the proper treatment of cases of this description. Dr. Dunlop, the medical officer of the workhouse, informed the committee that nearly 25 per cent. of the paupers admitted into the insane wards came in suffering from the direct effects of drink. The committee recommended the board to invite the special attention of the Local Government Board to the question of the treatment of habitual drunkards of the pauper class, and urged the furthering of any steps that might be taken for the investment in Boards of Guardians of a discretionary power for the detention of habitual drunkards in suitable establishments provided for the purpose. Mr. T. C. Jones moved the adoption of the report, which was carried. — *Daily News*.

THE INTERNATIONAL TEMPERANCE CONGRESS AT PARIS. — The French Temperance Society has had its congress, which occupied three days, and the principal speakers were Drs. Lunier, Dujardin-Beaumetz, and Magnan. These gentlemen merely went over the old subjects, to which they had for a long time specially devoted their attention, and which are pretty well known to the profession. I may, however, mention, as a reminder, that Dr. Magnan illustrated in a most indubitable manner that the convulsifying properties of the liqueur called "absinthe" were due to the presence of this substance, and not to the alcohol it contained. The latter also produced convulsions, but they are of a clonic character, preceded by a form

of delirium known under the name of delirium tremens; whereas the convulsions produced by absinthe are tonic or of the epileptic type. Dr. Magnan further demonstrated by experiments on animals that, among all the aromatic liqueurs generally employed, or those composed of essential oils, such as anisette, menthe, vermouth, chartreuse, &c., absinthe is the only one that has the unhappy privilege of producing epileptic convulsions, the other toxic effects when these liqueurs are taken in excess being due to the presence of alcohol, which exists in them in a concentrated form. Dr. Dujardin-Beaumetz illustrated the toxic properties of the different kinds of alcohol and brandies sold in commerce, and pronounced those distilled from wine or the juice of the grape as being the only spirits fit to be drunk. Dr. Lunier pointed out by comparative statistical researches the dangers resulting from the abuse of the different spirituous liquors commonly in use, and observed that, if people would only stick to wine in moderate quantity, drunkenness and its evil consequences would be unknown, and teetotalism would be useless, and legislative measures uncalled for. After having heard what the other speakers had to say, the President and the other officers of the Congress passed resolutions to the effect that the governments of the different countries of the civilised world be invited to suppress by all the means in their power the abuse of alcoholic liquors; and that those employed for drinking purposes should be composed of spirits purified and rectified as much as possible, in order to remove from them the deleterious substances they contain; secondly, that a permanent international commission should be appointed to gather together all the facts and information relating to alcoholism, and to study the various means at their disposal with the view of continuing the work of that branch of the Paris International Congress on the use and abuse of spirits, which has just been brought to a close. — *Paris Correspondent of "British Medical Journal."*

THE
MEDICAL TEMPERANCE JOURNAL.
January, 1879.

Original Contributions.

THE CONTEMPORARY REVIEW ON "THE ALCOHOL
QUESTION."

THE discussion on the Alcohol Question in the *Contemporary Review* is a sign of the times. It is a palpable proof of the extent to which both scientific and non-scientific society is exercised on this subject. There is a spirit of restlessness and inquiry which cannot fail to lead to most important results. It will be impossible, in the space at our command, to examine in any thorough manner the seven papers which have already appeared; but we shall endeavour to indicate the standpoints of their various authors, to refute some of the arguments, and to expose some of the fallacies contained in them.

Sir James Paget, Bart., opens the subject with a paper on the "Contrast of Temperance with Abstinence." It has rarely been our lot to read a paper by an eminent man which deals more superficially with the question. If assertions were sufficient to prove a point we should have to confess ourselves in the wrong. For instance, in noticing the view now commonly held that "alcoholic drinks, even in small quantities, are always and to all healthy persons injurious, slowly, it may be, but surely," he states that there is "little evidence in favour of them, and there is more that inclines the other way"; nay that, "with such evidence as we have," he cannot doubt, "that the habitual moderate use of alcoholic drinks is generally beneficial"! While we are thus anxiously expecting incontestable evidence, we are told, first, that there are no statistics on the subject.

Sir J. Paget would be satisfied if there were but five hundred total abstainers who had never been intemperate nor been born of intemperate parents who could be compared with five hundred habitual moderate drinkers. Prison statistics are discarded because the prisoners lead healthy lives in other respects. But by admitting the fact of their good health, Sir James really concedes the case; for he has to admit that total abstinence is consistent with the best health, and we are sure he would not venture to say that the use of alcohol obviates the ill effects of other bad habits. However, it is clear that he cannot produce any figures to show that the use of alcohol is beneficial, otherwise we should have had them.

But Sir James has fallen into error, misled, perhaps, by the ignorance of Dr. W. Farr, who, in his recent letter to the Registrar-General, made the same mistake. In our last number we pointed out that numerous statistics, respecting, not five hundred, but twenty times that number of abstainers, have been long known, and that these prove beyond all doubt that alcohol tends to shorten the duration of life. If some of these have had intemperate parents, as is most likely, the value of the figures remains the same, because the persons with whom they are compared are under just the same conditions. Statistics, then, are altogether in favour of total abstinence.

The opinions of the medical profession in favour of moderation, by a vast majority, is his second reason for approving it. What their opinions are worth when one of the acutest and busiest of them forms his opinion with so little acquaintance with the facts, our readers must judge. But if our practice is to be based on the opinions of a majority, we may be quite sure it will be a long time before that majority will find it necessary to give any better reason for their opinions.

The "results of all physiological studies" are coolly dismissed as more likely to prove fallacious than not, and as having no value until practically tested. This may be taken to mean that the said results are not favourable to alcohol, and the paper could not have taken any other form if its design had been to prevent the practical testing which alone is said to confer any value on the results. The *animus* is too palpable here to be of much weight.

Lastly, "the beliefs of reasonable people" being by a great majority on the same side are said to be a proof that the "evidence of the custom being a bad one is not clear." But, as is naïvely admitted, "few even among reasonable people have made any careful observations, and fewer still have thought with any care;" and the fact remains that now that reasonable people are examining the evidence, unprejudiced persons, in daily in-

creasing numbers, are not only admitting, but testifying to, the benefits of abstinence.

Sir James Paget states that the "long-abiding custom" shows that it is probably beneficial, and even indicates a "natural disposition to drink." But this proves too much, for it is equally applicable to drunkenness as to moderation, at all events at many periods of history, and among many nations; and it is universally applicable to many vices which are nevertheless injurious and always to be deprecated. All kinds of sin might be justified on similar grounds.

But the fact remains that there is a natural repugnance to the use of intoxicants, as great in the human as in other animals, though more easily overcome in the former by the influence of example. A considerable minority dislike and do not use alcoholic drinks, and this is sufficient to disprove a "natural disposition" thereto. The existence of this "natural disposition" becomes all the more doubtful when we observe that it is easy to establish an equally powerful craving for other nervine drugs by the simple method of using them in small quantities; and Sir James is, by the exigency of his argument, reduced *ad absurdum* in having to suggest that the Styrian arsenic eater is "perhaps" all the better for his habit!

Perceiving to some extent his fallacious position, he is compelled to apply to the word "natural" a new and unnatural sense. He demands that it should be applied to all present wants and habits, on the presumption that a development of mind and body is going on by which new instincts are created. He here reasons in the vicious circle that what is universally done is natural, what is natural is beneficial, and what is beneficial is universally done. The first and the third of these propositions are untrue, and the second also, unless the term "natural" be restricted to actions instinctive in kind, but not always in degree. According to Sir James Paget, science is *hereafter* to demonstrate the fitness of the alcoholic drinks which are so agreeable to instinctive taste! Natural theology, too, will be furnished with a new argument for the existence of a beneficent Deity, and the morality of the future is to be based on the maxim "whatever is pleasant is right"! If Science refuses to acknowledge this law of nature, so much the worse for Science. The Shakespeare of the future will have to write

"Let good digestion wait on appetite,
And Science on both."

A similar confusion of mind appears to prevail in the next argument, in which Eastern nations (for the most part abstainers) are compared unfavourably with Western nations (for the most

part drinkers of alcohol). The Hindoos who are organising a mission to convert drinking Christians into sober Hindoos are of a different opinion. But we feel that any one who can gravely compare races who have scarcely anything in common, and attribute the difference wholly or largely to the use of alcohol by one set and not by the other, is almost beyond the reach of argument. No true comparison can be made in any case, unless all other things are equal. All history affirms that alcoholic indulgence leads to effeminacy in course of time, and then to destruction by a more sober and hardy race. The question is not whether Englishmen are superior to Turks, but whether drinking Turks are superior to their sober countrymen, whether the portion of Englishmen who use alcohol are, class for class, superior to those who do not. The majority of our fellow-countrymen being accustomed to drink alcohol, and that majority having been even greater in the past than it is now, we naturally expect that many more eminent men will be claimed as philalcoholists. But since many eminent men have been abstainers, it is clearly not a *sine quâ non* for brilliancy and talent. Many of the learned alcohol-drinkers have abstained for long periods, so that here again the value of alcohol has to be considerably discounted. When, finally, there are scores of living witnesses who, having tried both plans, testify to having a clearer head and being able to do far more bodily and mental work without alcohol than with it, the claims of this "mockery" are utterly exploded.

The tests of the value of moderation which Sir James would apply are, "the average length of life, average health, the quantity of muscular and of mental work." The first two he dismisses, because he thinks there is "no evidence" to be relied on. This is true as between East and West, but not as between Western drinkers and abstainers; for evidence on which points we refer our readers to our last and previous numbers. The advantage of abstinence for muscular work has been shown repeatedly, notably in Dr. Parkes' book on the Ashantee War, and in the Appendix thereto; on the changing of the gauge on the Great Western Railway, when hundreds of navvies worked, as navvies never worked before, on oatmeal and water.

Sir James Paget seems to think that if drinking alcohol were injurious we should have seen a great deterioration in the course of thirty generations, sufficient to have put the Northern nations behind the Southern, the Western behind the Eastern. This might have been more likely if the other habits of the South and East had been equally healthy, and their climate likewise. But a bracing climate such as ours develops strength, and, at the same time, kills off the weakly who could live and procreate in warmer regions. Then, too, the vast majority of the children

of really moderate drinkers are born before the slowly-acting chemical effect of the small doses of alcohol has time to produce those tissue-degenerations which ultimately hasten decay and death. The changes produced by alcohol are for a long time functional, not organic: the spirit at first affects the produced tissues, not the reproduction of them, and, least of all, the generative powers; therefore, unless the whole body is soaked in alcohol, as during a debauch, new, unaffected, healthy elements are formed, and are the foundation for the new being. The influence of alcohol has also been hitherto far less hurtful, because, as a rule, the mothers of England have been not only sober but abstemious, if not totally abstaining. Should the development of female drinking continue at its present rate, the effect on the constitution of their unfortunate infants will certainly appear. For all these reasons drunkenness has not had such an evil influence in deteriorating the race as it might have had. To argue, however, that moderate drinking may therefore be always harmless, and often or usually beneficial, in spite of all evidence of its personal injuriousness and dangerous tendency, is to exhibit a strange perversion of judgment.

The same writer attempts to controvert the idea that small doses of alcohol are necessarily mischievous in health by pointing out that small doses of other drugs are often beneficial in disease, although both these and alcohol are poisonous in large doses. But we are sure that he would not assert that quinine or arsenic are useful to improve perfect health, to increase a good and sufficient appetite, or to strengthen the strong and vigorous. The hundredth part of a grain of quinine, or a drop of alcohol, may, doubtless, be taken with impunity; but, advancing drop by drop, there must be some unknown quantity which will interfere with normal function and excite abnormal actions. What that quantity is we cannot say, and Sir James declines to tell us. We are, therefore, compelled to declare that, while we know that total abstinence is safe, no one can say how much can be taken with impunity. The fact that the use of alcohol is "certainly pleasant" seems to us to explain very clearly the determined attempt to prove it to be "probably useful"; but we can afford to wait, since time will show that those who do not take it at least lose nothing by their abstinence.

Dr. Lauder Brunton's paper deals more particularly with the physiological action of alcohol. His view is that alcohol is capable of combustion in the body, and is, therefore, a "food" as truly as sugar; but it is no more like a useful food than sulphur is a useful fuel: "it can hardly be regarded as a convenient food in health." With this view we need not quarrel, except on account of the misconception which the calling of it a

food at all is sure to give rise to. As well might we call chloroform or ether a food. Its value as a food in fevers demands more proof than has yet been given; for, although more can then be taken without intoxication, and it may be broken up in some way in the system, its theoretical value cannot be determined until we know how this takes place. Dr. Wilks admits candidly that we do not. Its superiority over milk, or even sugar, has not yet been shown, and several considerations lead to a contrary view altogether.

Dr. Brunton believes that it is the sense of well-being and comfort which alcohol produces which is its chief attraction. Men fancy they can do more with it, but in reality they can do less; the difference being all the greater when more has been taken. The only action of alcohol which can lead to increased exercise of power is that by which the blood-vessels are relaxed and the amount of blood circulating in some of the tissues for the time increased. He attributes this partly to reflex stimulation of the branches of the fifth nerves in the mouth and throat, and partly to its action on the heart. The first result can be obtained in many other ways, and the second likewise; but though this action may be effectual it is a dangerous one; the effect also is diminished by frequent repetition, requiring increased quantities of alcohol, which then injure the body in other ways. This use of alcohol can, therefore, neither be relied on nor encouraged. He goes on to say that, "with this exception, the effect of alcohol upon the nervous system may be described as one of *progressive paralysis*. The higher centres suffer first, and the judgment is probably the first quality to be impaired." He gives a striking illustration of this, and many examples of it are well known. This is not an exceptional effect, although often not perceived, because men rarely test themselves candidly on the point. We must anticipate here by referring to Dr. Moxon's views on this subject. He considers that alcohol exalts the individual sense at the expense of the common sense. We are inclined to agree with him so far as his view agrees with Dr. Brunton's. The judgment being impaired, the man "thinks of himself more highly than he ought to think," and no longer "soberly." The appeal from Philip drunk to Philip sober is generally humiliating. Dr. Johnson, in replying to Sir Joshua Reynolds' assertion that wine improved conversation, said, "No, sir; before dinner men meet with great inequality of understanding, and those who are conscious of their inferiority have the modesty not to talk; when they have drunk wine, every man feels himself comfortable, and loses that modesty, and grows impudent and vociferous; but he is not improved, he is only not sensible of his defects." From such "improvement" deliver us!

But alcohol has an equally paralysing action on the power of self-control; and voluntary influence is gradually weakened, first, over the ideas, which then run more freely but more automatically, being excited more easily by suggestions either from within or without, and being brilliant, witty, profane, or carnal partly according to previous habits, and partly from present accidental suggestions. The mind is degraded when it seems thus exalted. The man has voluntarily surrendered his self-control. The same brilliance of imagination is perceived in dreams where the mind runs riot, and impossible occurrences are accepted as matters of course, without surprise, because the judgment is dormant. Voluntary power is asleep likewise; but when, during waking hours, the voluntary power is present, and the judgment respecting certain ideas is still dormant, we call the person insane. The action of alcohol on the mind, therefore, is in the direction of insanity.

The usefulness of alcohol in promoting digestion rests on a very shadowy basis, principally the testimony of those whose judgment the alcohol imbibed has already affected, and whose subjective sensations are utterly unreliable. The necessity of alcohol has been proved a delusion by many who once honestly believed in it. Dr. Parkes, in reviewing the Ashantee campaign, showed that the abstaining soldiers did all that the others did, and were healthier into the bargain. *If* they could not eat their supper without the ration of rum, it is clear that they did not need either. But, whether forty years old or not, we know enough of abstainers to guarantee that they will not fail for want of appetite. Many new abstainers are so anxious to make up for the surrender of the (supposed) nourishing wine or beer, that they run into the other danger of taking more than they really require: hence they become "bilious," and are soon assured (too often by doctors who ought to know better) that teetotalism does not agree with them, while all they need is a spare diet and a blue pill.

After all, we can agree with Dr. Brunton's final remark that, "so long as a man is healthy, eating well and sleeping well, he does not need alcohol, and, as a rule, is better without it." We should add that when he cannot eat and sleep well he is generally doing something or eating something wrong, and does not need a sedative but a reformation of habits.

Dr. Bernays presents us with nothing new, but some old fallacies redressed for the occasion. He rather trifles round the subject than deals with it. He acknowledges to being in the habit of working from Monday to Saturday without alcohol, save for a few brandied cherries on rare occasions, and not having felt any ill effects therefrom he recommends the observant and tem-

perate to judge for themselves what agrees with them; that is, to take what alcohol they like, in spite of any one else's experience. As men are also to be the judges of their own powers of observation and temperance, it is clear that every one will get a certificate; so his advice amounts to this, "Let every man take as much as he likes." How far this advice will cure or prevent intemperance we leave our readers to judge.

But Dr. Bernays "contends for a principle," namely, "moderation rather than abstinence." If this is worth contending for it ought to be valuable. We are puzzled, however, to know what it is. A "principle" is universally applicable or it is useless. "The principle of moderation," then, must mean that we ought to take a little of everything, and abstain from nothing. Since this is absurd, it is clear that Dr. Bernays is prepared to contend for an absurdity. *We* are prepared to contend for the principle of moderation in all good things, and abstinence from all that is bad. Dr. Bernays has yet to prove that it is better to take alcohol than to abstain from it. When he has done that we will admit his particular case, but not his "principle."

Sir W. Gull's paper is a *précis* of his evidence before the Lords' Committee, and has been before discussed in these columns. Some of his remarks are very valuable as coming from him. Thus, he states that "a very large number of people fall into the error every day of believing that strong wine and stimulants give strength." He admits that the co-called moderate use of alcohol may injure the nerve-tissues and be deleterious to health, and that when this is so the best way is to leave off the alcohol at once and altogether. The value of alcohol to the old will not be proved by comparing it to fire and quoting Greek poets. The old often say they feel to need it, but so do the middle-aged for much the same reason, and with as little truth. The old, with tissues degenerating, perhaps fatty, should certainly avoid "the genius of degeneration" if they wish to live. The alleged value of it to the labourer is mere theory based on mistaken premises, the falsity of which has been demonstrated again and again in practice.

The valuelessness of alcohol in disease is only apparent to those who have really tried to do without it, and to them it is so increasingly. Altogether, Sir W. Gull appears to be advancing cautiously towards the light, and we do not think that we have had his last word on the subject.

Dr. Murchison presents us with a very useful paper. He dwells specially on the varieties of constitution, in consequence of which alcohol does not affect all in the same way. He divides the community into three classes :—(1) those who drink much or

little and live to old age. These are the exceptions, and, in most cases, owe their long immunity to the activity of one or all of their secreting organs. In many of these, however, a post-mortem examination reveals degeneration of tissues, and thus a strong presumption is afforded that, even in these cases, life is curtailed. (2) There are those who are slowly and insidiously injured by alcohol in moderate doses. He says, "My experience has led me to the conclusion that alcohol, taken in what is usually regarded as moderation, is more or less directly the cause of a large number of the ailments which, in this country, render life miserable, and bring it to an early close." (3) Those to whom alcohol is an unmistakable poison, even in small quantities. His opinion is decided and valuable: that, as far as his observation and experience go, in a man who enjoys average health, who eats well and sleeps well, the judgment is clearer, and the mental capacity greater, when he takes no alcohol than when he takes only a small quantity. He argues that if alcohol is not necessary, and as it is impossible to tell beforehand whether alcohol will be slowly injurious or not, men must decide whether it is worth while to encounter the risk for the sake of the pleasure. *Verbum sapienti sat.*

On the other hand, Dr. Murchison believes alcohol to be useful in most acute diseases when the heart begins to fail, but not in large doses. Digitalis is an excellent substitute in most of these cases, and ammonia will act well in others. Pure alcohol does all that brandy can do, and has the advantage of definite strength. We are very dubious as to the power of a stimulant to avert a fatal issue in cases of real danger; mere opinion that such is the case must be taken for what it is worth—generally very little. The only way to arrive at a correct view is to patiently accumulate cases of successful non-alcoholic treatment, and these are becoming more frequent every year. Dr. Murchison also thinks alcohol useful in convalescence from acute diseases when the circulation is feeble. Unfortunately, convalescent patients rarely give Nature a chance of showing its power. With graduated exercise and proper diet, it is often marvellous how rapid convalescence is when the incubus of alcohol is not imposed. Thirdly, he believes it to be often useful to persons advanced in life with feeble circulation, and also to others of any age whose hearts are muscularly weak. We do not believe that there is any objective evidence of this benefit, and that the subjective evidence, though ample, is utterly unreliable. The tone of the blood-vessels is decidedly diminished by alcohol, and the repeated doses lose their first apparently beneficial effect. Dr. Murchison seems to recognise this latter fact by counselling its use only for

a time. Taking his paper as a whole, it may be regarded as favourable to the disuse of alcohol.

Dr. Moxon enters on the subject in a different way altogether, and with a different aim. He desires to discover, if possible, the influence of alcohol on different orders of mind and mental tendencies, and thinks he has explained the cause of drunkenness by a metaphysical distinction between individual and common sense. He takes a curiously narrow view, and comes to a very lame and impotent conclusion. He starts with the untruth that a drunkard cannot be permanently reclaimed, and he gives as the reason that his brain is shrunken and his membranes thick. How soon? After how many fits of intoxication? If not at first, why may not the drunkard be saved by appropriate means? Quite possibly some are irreclaimable through physical changes, but such remarkable instances of reformation are so common that despair is absurd; and such inhuman sentences as this: "Teetotalising A, the good man, to save B, the sot, is throwing good after bad. 'The sot is not worth it,' are nauseous and contemptible. Thank God! we have yet a Christian religion whose inspiration is the life and death of Him who came "to seek and to save that which was *lost*."

Dr. Moxon regards drunkenness as being a special failing of those whose individual sense is strong, and who have little capacity for common sense. This is simply a new way of putting the old fact that men who have least self-control are more easily carried away by their own lusts and enticed. But Dr. Moxon's law is too hard and fast to be true to nature. There are, or have been, drunken Queen's Counsel of remarkable aptitude and large common sense; and, amidst all the temptations of public-house life, sober potmen are not unknown with shrewdness and originality, but "born to blush unseen." He says, "Scotchmen, with much common sense, take a deal of whisky without much harm"; he knows little of drunken Scotchmen. He thinks the whole matter is explained by saying that "alcohol weakens common sense in its opposition to individuality," and that those who get drunk have found out that fact and fly to alcohol to escape from the oppressive power of others and of common sense, and so to be made better company to themselves and others." He might have said that many drink to drown reflection and escape the sting of conscience, and he would have been right. But the same end, in a lesser degree, the promotion of a flow of thought and soul, is said to be the chief reason for the use of alcohol by all. This, therefore, does not explain the cause of excess. In fact, the man of great individuality should need less, and the man of much common sense should need to take

more. No explanation is, indeed, sufficient which does not recognise the fact that alcohol, by its action on the nervous system, reduces the power of self-control, weakens the judgment, gives the rein to the animal passions, and, above all, leaves a depressed state of feeling, which, in a minor degree, leads a moderate drinker to think he cannot do without his little drop, and the deeper drinker to *crave* for a draught to get rid of his frightful and uneasy sensations. Every type of character has furnished its quota to the drunkards' roll, and many more will be added if the use of alcohol is recommended to the multitude.

While exalting the value of individuality, Dr. Moxon is almost savage when a poor working-man ventures to resist the doctor's common sense. If he were infallible he could scarcely be more dogmatic, and we question whether the cooper was any the worse for holding to his own view of the pledge. This simply binds a man to abstain from all intoxicating liquors as a *beverage*, and if he added its use as a medicine it was by his own choice, for which the "teetotalers" are in no wise to blame. Dr. Moxon is altogether too much impressed by the "common-sense" views of his fellows or he would see the absurdity of calling total abstinence from alcohol an "intemperate extreme." We may fairly retort that he is equally intemperate in abstaining from the moderate habitual use of opium, of haschish, or of anything else which he believes to be injurious in any quantity. Our position is really impregnable: if we are convinced of the uselessness of even small habitual doses of alcohol, and see their enthralling influence and ultimate injury on every side of us, we can afford to smile at those who politely call us fools for declining to put on their iron yoke.

Dr. Wilks' paper is written in a very different spirit, and is consistent with the best remarks of the preceding writers. He confirms the view that alcohol is really a sedative or paralysing agent, and that its influence is first exerted on the higher and nobler centres of the mind. He exposes the mistake of deciding on the value of alcohol by the feelings, and denounces its use by the young, by those who feel to want it, or who take it because they are "low."

The influence of alcohol, therefore, is exerted to degrade mankind: it reduces the self-control and virtue of a community, and is a drag upon civilisation and the ennobling of character. Professing to make men wise, it opens their eyes to evil rather than to good: they become foolish. Instead of exalting, it debases; instead of removing danger, it only hides it for a time; instead of cheering by banishing the cause of sorrow, it deadens the

feelings for a little while, and then leaves its victim to drink the cup of woe to the very dregs: "at the last it biteth like a serpent." "It keeps the word of promise to the ear, but breaks it to the hope." No lover of his fellow-men would introduce it to those who are happy without it, whether collected in some sunny island of the South, or intermingled with drinkers of alcohol in our very midst. "Woe to him through whom the offence cometh."



MORTALITY FROM ALCOHOL.

OFTEN as abstainers have been accused of exaggerating the evils arising from intemperance, deliberate scientific inquiry has in the long run, wherever it has been instituted, more than confirmed the accuracy of their statements. A remarkable example of this it is now our duty to comment upon. The only definite assertion as to the loss of life through intemperance in Great Britain, which has hitherto been made by the advocates of total abstinence, has been that 60,000 drunkards die every year. In these days of drawing-room abstinence no statement has been more frequently disavowed, and no assertion oftener adduced as a flagrant instance of intemperance in speech. But within the last quarter two well-known members of the medical profession have read carefully-prepared papers, the outcome of laborious investigation, on the mortality from alcohol, not to popular audiences but to exclusive and scientific societies, setting forth figures which fall very little short in some particulars, and in others go far beyond, the wildest estimates of our earliest and most enthusiastic advocates.

The first of these papers was read at the Social Science Congress, in Cheltenham, in October, by Dr. Norman Kerr. The author combated the extraordinary opinion enunciated by Dr. William Farr, in a letter addressed to the Registrar-General, that the deaths from alcohol were rapidly decreasing, and were very few in number; and went on to show how very different was the true state of matters. Though in the Annual Report of the Registrar-General for the United Kingdom less than 1,500 persons were returned as dying from alcohol in 1876, all acquainted with the facts knew that these returns afforded no indication whatever of the actual number of deaths due to drinking habits. Under the present lax and imperfect mode of

registration, medical practitioners did not, and, in fact, were not expected to, certify the original cause of death. It was very rarely indeed that the certifying doctor mentioned intemperance in the death certificate, and therefore the returns, on which Dr. Farr has founded his optimist views on the limited area of fatal drinking, were of little value in estimating the true death-rate from intemperance.

Determined, if possible, to arrive at an approximation to the truth, Dr. Kerr has kept a record of all deaths occurring in his practice. In one period of twelve months he either certified to the registrar, or testified before the coroner, to the causes of the death of fifty-five persons; and he knew that thirteen of these had died either from their own intemperance, or from disease or accident arising from the intemperance of others. As there are 16,000 practitioners of medicine in the kingdom, after deducting a proportionate number of cases for the unusual extent of his practice and the increased mortality he had experienced in his poor-law work, this gave a total annual mortality from alcohol, for the whole country, of 128,000. Astounded at these terrible figures, Dr. Kerr endeavoured to check their accuracy by a variety of methods. He examined his entire death-roll for seventeen years, and found that the average annual alcoholic fatality, calculated as before, during that whole period, was 120,800. In one year he had given evidence at thirty inquests, nearly all of which were necessitated by sudden or violent deaths occasioned by alcoholic indulgence; and seven successive deaths for which he certified were the result, directly or indirectly, of excessive drinking. Dr. Kerr then gave a summary of the causes of deaths from drink in the practice of twelve medical men in different parts of the country, showing a considerably higher alcoholic death-rate than even his own practice had done.

Not satisfied with this ample corroboration of the moderation of his estimate, Dr. Kerr proceeded to calculate the mortality on a wholly different basis. Taking Mr. Neison's death-rate of drunkards, there being admittedly at least 600,000 amongst us, the number of the intemperate dying annually was 40,500. If to these were added one-fourth of the infantile mortality, as due directly or indirectly to alcohol—65,000—there remained of the 120,000 only the exceedingly low number of 25,000 for the deaths from violence and accident, other deaths from excess, and the great multitude of wives, and children beyond the age of five, dying from their own drunkenness or from the drunkenness of others. No one would dispute that the drunkards annually dying greatly exceeded 40,500, but some, not practically conversant with the prevalence of disease, crime, and pauperism among the masses, might doubt the fairness of allotting 65,000

infantile deaths to drinking. But Dr. Kerr, from his own extended experience in the poor-law service, both in London and the provinces, and from the testimony of a cloud of competent witnesses, demonstrated that the main cause of all these evils was indulgence in intoxicating liquids. A hecatomb of children were annually slain, by suffocation alone, through the heavy drunken sleep of their besotted parents.

Mr. Wakley, the well-known coroner, estimated the mortality from hard drinking at over 119,000; while Dr. Lankester, his talented successor, attributed to alcohol a direct death-rate of nearly 70,000. But the author disclosed yet another and most striking estimate based on totally different calculations, though yielding much the same result as his former estimates. More than 70,000 persons died every year in public institutions, such as hospitals and workhouses, and of these deaths at least a third (or 23,627) were the effect of intemperance. Fully 12,000 engaged in the liquor traffic died annually, and more than 11,500 succumbed to violence consequent on drinking. If to these were added the alcoholic infant mortality, only 7,873 remained, for all other alcoholic causes of death, to reach the previous reckoning of 120,000. Dr. Kerr added that were the inquiry extended to embrace all drinking, limited and unlimited, his own practice, extended as before over the kingdom, would show a minimum alcoholic mortality of 200,000 per annum, and that therefore Dr. Richardson had been nearer the truth than most of them had been willing to admit, when he said that were Britain converted to temperance nearly 227,000 lives would be annually saved.

The discussion following the reading of the paper was at once animated and remarkable. By a strange coincidence Dr. Farr himself occupied the chair, and exhibited the most unequivocal signs of astonishment and incredulity at the promulgation of Dr. Kerr's estimate of 120,000 alcoholic deaths. In Dr. Hardwicke, however, one of the highest authorities in the country, the latter found a resolute and uncompromising defender. Even when cross-examined a second time by Dr. Farr, who evidently thought his ears had deceived him, Dr. Hardwicke deliberately and emphatically stated that in his opinion Dr. Kerr's estimate would be ultimately found to be considerably under the truth. This strong confirmation is all the more valuable inasmuch as Dr. Hardwicke is not an abstainer, and, besides having had lengthened experience as Medical Officer of Health to a very large parish, has for years officiated as coroner over a district with nearly 1,000,000 of population. So marked was the impression made on Dr. Farr that, before the close of the proceedings, he admitted that perhaps between 30,000 and 40,000 persons might die from alcohol every year. We congratulate the learned and accom-

plished gentleman on his candour, as the number of deaths he now concedes is not very much less than the 40,500 the reader of the paper contended for. It only remains to say that the leading figures in this paper have appeared in most of the newspapers over the length and breadth of the land, and, though there have been leading articles on the subject in many influential journals, no exception has been taken to Dr. Kerr's computation or any attempt made to invalidate his conclusions.

Hardly had the echoes of this important discussion begun to die away ere Dr. Farr had to sustain the onslaught of another and powerful assailant. On this occasion his antagonist was Dr. Thomas Morton, who read a valuable paper, on "The Mortality from Alcohol," before the members of the Harveian Medical Society of London, a few weeks ago. Dr. Morton, at the outset, pointed out the fallacy underlying Dr. Farr's complacent views on the decrease of intemperance. The Registrar-General dealt only with the returns he received, but all medical practitioners well knew that only a small proportion of the deaths due to alcohol were returned under the head of intemperance, and how impossible it was to remedy this under the present imperfect system of registration. The only means of getting at the truth was going behind the returns and collating the experience of individual members of the profession. He had persuaded some twenty medical friends to favour him with the returns of their deaths, and the proportion wholly, as well as partially, caused by drink. These statistics referred only to England and Wales, and were restricted to persons who had died from their own intemperance, excluding all below 25 and above 75. The great bulk of the alcoholic deaths occurred in the intervening fifty years; few alcoholic deaths occurring below 25, except some from delirium tremens and violence, and very few drunkards indeed surviving beyond 75. Nearly all these returns were from medical men practising among the middle class, though some of them dipped into the artisan and poorer strata. He had no return at all of hospital cases, and not more than three-fourths of the number he ought to have had of deaths in workhouses. There were 1,375 deaths in all, 92 being wholly, and 164 partially, due to alcohol. This gave 1 in 14 of the former and 1 in 8.38 of the latter, altogether 1 in 5.24. Applying this to the number of deaths from all causes between 25 and 75—198,678—the result was 37,900 alcohol deaths. Of these 14,191 died wholly, and 23,700 partially, from the effects of drink. These numbers were respectively 12.67 and 21.17 times as great as the Registrar-General's figures, and this proportion Dr. Morton made use of to calculate the comparatively trifling remainder of the alcoholic mortality before 25 and after 75. In this way 519 deaths wholly, and 868 partially,

due to drink would fall to be added to the figures for the period between these ages, and thus a grand total of 39,287 deaths was shown to be more or less referable to alcohol. Of these 14,710 were wholly, and 24,577 partially, due to intemperance. The entire amount of the deaths from alcohol in England and Wales represented an adult mortality larger than that caused by any disease except consumption, to which it was about equal, while the number of deaths wholly attributable to alcohol was above all but bronchitis, consumption, heart disease, and old age. To check in some measure the accuracy of these figures Dr. Morton enumerated a long list of fatal diseases returned in the Registrar-General's report, and contrasted the number of cases registered with the probable number of cases really due to alcohol under each designation. Dr. Morton specially pointed out the predominant influence of alcohol in the causation of fatal cases of cirrhosis, disease of the kidneys, dyspepsia, insanity, and other affections of the brain, and gout, and concluded by moving the appointment of a committee to inquire into the whole mortality from alcohol—a proposition which was unanimously agreed to.

A spirited and interesting discussion ensued, Dr. Morton's estimate being supported by Drs. Richardson, Hardwicke, and Kerr. The latter showed that Dr. Morton's results, applied to the whole of the United Kingdom, would show a total annual mortality among the intemperate of 42,100, being 1,600 more than his own, based on independent and totally different lines of inquiry. Dr. Hardwicke again brought his accumulated stores of weighty facts to bear upon the elucidation of this pressing and important question, and gave it as his matured conviction that, though the estimate of, say, 40,000 drunkards dying annually had been arrived at, after most cautious and patient investigation, by two independent and reliable observers, when the whole matter came to be thoroughly sifted, this mortality would be seen to have been greatly under-estimated. Dr. Richardson, in his happiest vein, rejoiced that the vindication of his original statement that alcohol robbed this nation of a third of its vitality had come, not from the general public, but from the ranks of his own profession; and concluded a brilliant address by an impressive reference to the fact that all this terrible mortality arose from indulgence in a habit which, as a physiologist, he was compelled to declare altogether outside of the natural order of things.

A few points strike us as standing out pre-eminently in these very important and memorable discussions. The most prominent is the urgent need for an immediate and more accurate system for the registration of deaths. The present plan was aptly described by Mr. Edwin Chadwick as "loose and unsatis-

factory," and we cannot look for any approach to the truth, as to the influence of alcohol in the causation of death, so long as our imperfect and incomplete procedures remain unchanged. As things are now almost any one can register a death, and the medical certificate, or a duplicate of it, may be seen not only by the friends but also by undertakers' men and others; and thus, if intemperance were always mentioned in the certificate when it has been the cause of death, the whole neighbourhood would most probably be at once informed that some loved and loving member of a family circle, or some amiable, unselfish, and respected philanthropist, had died from secret drinking. *Cui bono?* What good can it do to harrow the feelings of the surviving relatives by proclaiming the previously unknown drunkenness of the lamented dead to the world? Medical certificates of death were never intended to minister to the idle curiosity of an unthinking and callous public. Their object, in addition to being a protection against foul play, is to accumulate a mass of information, on the causes of mortality, from which skilled observers may be able to deduce general laws that can be utilised in lowering the future death-rate. Let us then have, as Dr. Kerr has proposed, a compulsory confidential return of the cause of death from the certifying practitioner, for which the Government ought to pay a moderate fee; or, as Mr. Chadwick prefers, the registration of all deaths by an independent health officer, who will have the interests of no private practice to conflict with the performance of his public duties. By some such improved system of registration there will be some chance of the whole truth being more frequently stated in the returns of the Registrar-General.

There is one thing quite certain, that the only means of approximating to the truth, under our present registration regulations, is by extending the plan followed by Drs. Kerr and Morton, and inducing a large number of medical men in different parts of the kingdom to carefully preserve the counterfoils of their death certificates, and forward copies of these periodically, with explanatory notes of the influence alcohol has, or has not, had in the causation of death. Few medical men have kept such records in the past, but we have so unbounded a confidence in the patriotism and benevolence of the profession, that we are convinced an appeal from a properly-constituted Committee of Inquiry would meet with a wide and satisfactory response.

We abstainers have been continually taunted with the sneer that we are men of but one idea, and that our alcoholophobia is ever thrusting itself forward even in matters that have nothing to do with Temperance. Not only have the meetings we are now reviewing disproved this groundless aspersion, but they have also

demonstrated that if the title of "one idea men" be applicable to any persons it ought to be reserved for our opponents. While the two medical gentlemen who read the papers on alcoholic mortality never made the remotest allusion to the total abstinence or temperance legislation movements, confining themselves entirely to the consideration of their particular subject—the elucidation of the extent of one of the many results of intemperance—Dr. Farr, and Mr. Chadwick, and other champions of "moderate" drinking, vigorously attacked both teetotalism and the Permissive Bill, denouncing, what they were pleased to term, the unwisdom of the methods adopted by the great leaders of the Temperance reformation for the furtherance of their cause. And, not content with this irrelevant and unprovoked attack, they indulged in the still more remote irrelevancy of chanting the praises of a moderate indulgence in alcoholic beverages. The insinuation to which we have referred, and to which we are constantly subjected, has therefore, like the boomerang, returned to the quarter whence it was shot forth, and henceforward the stigma of being dominated by one idea must cling to such champions of moderation as Dr. Farr and Mr. Chadwick, who are evidently suffering from a chronic attack of that irrepressible form of *monomania*, which may, with the utmost propriety, be termed "abstineophobia."

There seems to be a general consensus of skilled opinion that at least 40,000 drunkards, and 120,000 victims, either directly to their own indulgence or indirectly to the intemperance of others, die annually in our fatherland. Further detailed investigation may modify these figures, but no one has as yet ventured to question the moderation of these estimates. Were such a fatality to overtake a farmer's stock the whole country would be up in arms, and, as in the case of the cattle plague, the most radical measures of destruction and isolation, with an impassable cordon of police round the infected district, would be promptly and peremptorily ordered by Government. What abandoned folly, what hopeless insanity, what demoniac recklessness, have stolen away our national brains, taken possession of our national mind, and obliterated our national conscience, that we allow a thousandfold more fatal enemy to human life, relentless foe to human happiness, and unceasing destroyer of human souls, to run riot within our borders without let or hindrance! In view of such unsurpassable madness are we not constrained to exclaim with Shakespeare,—

"Wisdom has fled to brutish beasts,
And men have lost their reason"?

We congratulate the noble profession of medicine on this promising inauguration of what, we trust, will prove to be an

exhaustive inquiry into the actual extent of one of the most baleful consequences of tampering with those narcotic and poisonous agents against which we wage incessant warfare. We have ever deprecated exaggeration. The disease and death, the misery and degradation, arising from drink are so evident all around us, that the closest scrutiny can only disclose the existence of such an amount of sorrow and of suffering as cannot fail to arrest the attention of all, and awake the Christian Church and the conscience of the nation into one indignant and resolute effort to break the power, and terminate the tyranny, of that alcoholic tyrant to whom Britain has for so long bent the knee, and to whose insidious blandishments her children's enfeebled will has hitherto made no general and effectual resistance.



ALCOHOL IN THE WORKHOUSE.

NOTES ON THE SUBSTITUTION OF MEDICATED FOR INTOXICATING
STIMULANTS.

By EVORY KENNEDY, M.D., J.P. *Printed for the Guardians of
the South Dublin Union, October, 1878. Pp. 48.*

MUCH attention is now being directed to the question of the employment of stimulants in Workhouses and Workhouse Infirmarys, and it is high time that it should be inquired into. The glaring extravagance exhibited by some medical officers compels the attention of guardians, if there be the slightest disposition on their part, wisely to regulate the disposal of the public funds devoted to the poor. It requires neither teetotal nor temperance tendencies to justify inquiry into the excessive expenditure of some practitioners on alcoholic stimulants. The practice is so evidently and utterly a matter of mischievous routine that it cannot bear examination, and certainly cannot be justified. It stands forth obviously as a system of reckless wastefulness.

In the South Dublin Union Workhouse, the amount expended in intoxicating drinks appears to have been £2,000 per annum, an amount which quite justified the appointment of a Stimulant Committee to inquire "whether the *welfare of the inmates* and the economical management of the institution, could not be furthered by the substitution of medicated for intoxicating stimulants." We have here the notes of the chairman of the committee, and the name of Dr. Kennedy is a guarantee that the matter sub-

mitted for discussion is valuable and interesting, and we may add conclusive, as to the urgent need for a radical reform in this matter. Dr. Kennedy treats the question on strictly scientific principles, and adduces physiological evidence to show the dangers and disadvantages of alcohol as a remedial resource, either in debility or disease. He gives prominence to the important fact, long ago put upon record by Prout, that alcohol in the blood causes a marked diminution of carbonic acid in the exhaled air. "It destroys," Dr. Kennedy says, "the vital power of the blood, and prevents the respiratory process from doing its duty in the purification of the blood. It *therefore* acts as a rapid poison if taken in sufficient quantities; but as a slow poison if taken in smaller quantities." Again, he speaks of the "palpable fallacy of administering intoxicants that load the circulation with deleterious excrements, and cost a continual effort of vital force, and consequent exhaustion, to get rid of, instead of supplying true nutritive pabulum, and tonic remedies." Again, he says a judicious selection of tonic remedies would "enable us to discard the poison-loading of the system with the deleterious alcoholic depressants, which, like ill-chosen armour, *encumber rather than defend.*"

In all the recent discussions on the physiological action of alcohol it is very inexplicable that this well-established and fundamental fact is altogether ignored; for certainly no fact in the whole history of alcohol is so fitted to show forth its true deportment in the system. We wish above all things that professional writers on alcohol who can appreciate the terrible significance of such a fact were kept in mind of it. Had it been present to the minds of the distinguished men who have recently presented their views in favour of alcohol in the *Contemporary Review*, we should have had articles of very different import. Their plausible pleas and pretences for the employment of alcohol could not for an instant be held up in view of that fact.

Dr. Kennedy has brought together in his Notes an overwhelming amount of conclusive evidence of the direct benefit secured in many workhouses and public hospitals by the diminution or the entire abolition of the employment of intoxicants. He quotes the testimony of many physicians in extensive practice who have discarded entirely the employment of alcoholic stimulants, and then adduces extensive evidence from the governors of workhouses, gaols, and hospitals, which all goes to prove the marked benefits which have attended the restriction or entire withdrawal of intoxicants. Such an array of evidence is presented as ought to move all the Poor-Law guardians in the empire to exert to the utmost the authority vested in them by law to dictate to their medical officers, and compel the restriction

of this established recklessness by a very rigid rule. This power has long been exercised without any protest, in the case of the more expensive though really useful medicines, and much more it would be justified in the peremptory restriction of this positively mischievous agent.

The opposition of these medical officers has been the chief difficulty which Dr. Kennedy and his Stimulant Committee have had to contend with. On this point he remarks:—"It is difficult to satisfy those who look upon any interference with their opinions as an intrusion, an intermeddling on the part of *doctrinaires* with their right of judgment and experience, and consequent transferring from them of their responsibilities. These considerations render it a very difficult and delicate matter for us to accomplish our object of obtaining an impartial inquiry into the subject. I do not for a moment mean to insinuate that we have such persons to deal with in our physicians; but I describe human nature as I have found it occasionally, and professional men as I have sometimes met them, and, I regret to add, I describe the springs of action I have had to combat in my own mind. To guard against such a contingency, and secure the most efficient co-operation of our officers, we shall now refer to what is being done by other members of the medical profession, and others whose opinion they will respect, and thus afford the best proof that it is not our intention to dictate to, or intrude upon, the province of the physicians in the exercise of their judgment, but merely to draw their attention to the success which has attended the withdrawal of intoxicants in other workhouses, hospitals, and infirmaries."

If medical officers to the poor are not moved out of their routine practice by such a considerate appeal as is here presented, they need not be surprised if less considerate guardians should take somewhat high-handed measures to have things put to rights.

Some very good suggestions are given regarding the great variety of tonic and aromatic bitters which the vegetable kingdom supplies, and which are well adapted to meet the real necessities of the weak and ailing inmates of poor-houses, especial reference being made to the *Eucalyptus globulus*, which has recently attracted so much attention as a disinfectant in malarious districts in the South of Europe. A recommendation which we have not previously seen, but which is certainly not unworthy of attention in such cases, is the application to the pit of the stomach of what is known as a warm plaster. We believe it would prove a most comfortable resource and remedy for the *gones* which are so eloquently complained of by those addicted to the use of stimulants.

These "Notes" are printed specially for the guardians of the South Dublin Union; but they are so well fitted to enlighten those who are interested in the subject, whether guardians or medical officers of the poor, that it is most desirable they should have a much wider circulation.



Miscellaneous Communications.



THE MORTALITY FROM INTEMPERANCE.*

By NORMAN KERR, M.D., F.L.S., *London.*

THERE is a generally-accepted belief that 60,000 drunkards die in the United Kingdom every year, but I have been unable to trace the authority for this estimate, which seems to me to have no reliable basis, and probably to have been arrived at, as Mr. Dawson Burns has suggested, by simply doubling the estimated loss of life in the United States of America in 1826 through drinking, on the ground that the population of the United Kingdom was then about twice that of the American Republic. It was Mr. Everett who said that alcohol had cost America 300,000 lives in ten years. My attention has been directed to the subject for some years, and a comparison of the results of my own observation as a physician with those observed by several professional friends who also have had large numbers of the intemperate under their care, has appeared to me to afford somewhat more exact data than any hitherto available.

From the Registrar-General's report for 1876 we learn that 1,120 persons were certified as having died from alcoholism in England and Wales. In Scotland in 1873 there were 148. In the Irish Registrar-General's abstract (I here desire to express my

thanks to the Registrars-General of Ireland and Scotland for prompt and valuable information) for 1877 there is no heading for alcoholism, but we may safely say 160 for the sister isle. This would make 1,428 deaths from intemperance in one year in the United Kingdom. As everyone acquainted with the question knows, these returns afford no real indication of the mortality of drunkenness. Neither I nor any other medical practitioner is asked to go back to the *fons et origo mali* of the diseases ending in the deaths we certify, and as a matter of fact it is very seldom indeed that either I or any other medical man reports to the Registrar-General that intemperance has been the original source from which the stream of death has actually flowed. A patient dies from inflammation of the lungs or erysipelas directly excited by the disturbance of the system from a severe accident to a constitution depraved and poisoned by intemperance. But for the previous alcoholisation of the sufferer the accident would probably have been recovered from with no complications, and yet in such fatal cases there is rarely mention of intemperance in the certificate.

But even if there were no more deaths than those recorded by the Registrars-General, is not the number given sufficient to appal the stoutest

* Read at the Social Science Congress, Cheltenham, 29th October, 1878.

heart? In the twenty years 1857-76 four hundred and thirty-four persons are returned as having died from hydrophobia in England and Wales, while during the same period 16,891 are reported as having died from alcoholism. In other words,

“Man’s inhumanity to man”

has cost nearly thirty-nine times as many lives during the last two decades as has the uncontrollable fury of canine madness.

In one period of twelve months I testified, either by certificate or before the coroner, as to the deaths of fifty-five persons. Of these I know that thirteen died either from personal intemperance or from disease or accident arising through the intemperance of others. The total number of medical men in practice in the United Kingdom is estimated by the publishers of a well-known visiting list to be about 20,000, and by some medical men about 17,000; but from my own investigation, in the “Medical Directory” and otherwise, allowing for those not actually engaged in practice in these islands, I am inclined to believe that 16,000 is nearer the truth. As there were over 680,000 deaths in 1876, the average number of certificates, if all deaths were registered, for each practitioner would be 42·5. I was thus 12·5 above the average. Therefore, if each practitioner on an average had a similar experience to myself, there would have been as the result of intemperance in the twelve months upwards of 160,000 deaths. But as I had large numbers of the poor under my care, and as the poorer classes are generally believed to be more intemperate (I give no opinion on this point at present) than the richer, it seems to me only fair to deduct a fifth, or 32,000 from the last number, leaving an annual total mortality from intemperance of 128,000.

About a year ago, from a preliminary inquiry into the vital statistics of drinking, I formed the opinion that at least 100,000 persons were every year killed in this country (either directly or indirectly) by intemperance, and the reasonableness of that esti-

mate was then publicly endorsed by a well-known London physician; but I confess that the terrible sacrifice of over 128,000 lives as a yearly tribute to our national Moloch was more than I could at first credit, and I at once set to work in various ways to check this saddening arithmetic.

I have a record of 270 fatal cases spread over seventeen years, and in sixty of these I am satisfied that alcoholic indulgence was the leading factor. As there are, from the official returns, over 680,000 deaths every year in the United Kingdom, if the proportion of 60 to 270 be taken, more than 151,000 yearly deaths would be the result. But for the same reason as before (having had considerable parochial practice) let us deduct a fifth, and there remain over 120,000. Thus, while a single year’s experience gave 128,000, the mean of seventeen years showed 120,800.

I was still so incredulous that, after a lengthened consideration of these unutterably mournful figures, I looked up my note-book and found that in one year in London I had given evidence at thirty inquests; and I need hardly tell any one familiar with the Middlesex coroner’s laborious work that by far the greater part of these were necessitated by some one’s intemperance. Again, I noted that in seven successive fatal cases for which I certified each was the consequence, direct or indirect, of excessive drinking.

In corroboration there is before me a summary of the cases of 232 deaths occurring in the practice of a dozen medical men, some practising in the country and some in large cities. Of the 235 deaths 71 were believed to have arisen directly or indirectly from intemperance. This is a much higher rate of mortality from alcohol than my own practice has shown, and a detailed calculation would send the annual loss far beyond 128,000.

Let me try my conclusions from another point of view. Mr. Neison has laid down the average mortality of drunkards as 5·2-5ths per cent. It is almost universally conceded that there are 600,000 inebriates in the

kingdom, and that the number is under-estimated is apparent from the fact that it is equivalent to only four drunkards for each place for the sale of liquor on the premises. We have, therefore, an annual mortality in the ranks of the slaves to drink of 32,400. In the country I observed one victim's death to about every six houses for the sale of drink, while in London I have known four and five die for a single establishment; so it seems to me fair to assume one death for every three houses; but if we say only one to every four we shall still have 37,500 deaths. This is exclusive of the 30,000 houses, licensed for sale off the premises, and if we add one death for every ten of these off-licenses we have 40,500 deaths in all. A certain number of these deaths would have taken place had there been no intemperance, but allowing for the proportion that would in all probability have died in any circumstances, there still remains an average annual surplus mortality amongst the victims of drink's fatal embrace of at least 30,000.

Infantile mortality under five years (England and Wales 206,553 in 1876, Scotland, 27,341 in 1873) is probably about 260,000 in the kingdom. Of this take a fourth as arising directly or indirectly from intemperance, and we have 65,000. Then consider the large number of accidental deaths, and deaths by violence from the intemperance of persons other than the killed, the numerous deaths from an insufficient supply of fresh air and good food to wives, and boys and girls beyond the age of five, through the intemperate habits of heads of families, and other deaths from excess, and you will admit that the 25,000 wanting to make up our former reckoning of 120,000 is an exceedingly low figure.

No one is likely to deny that the assigned number of drunkards dying (30,000) is very much below the actual fatality; but some may be disposed to question the fairness of apportioning 65,000 infantile deaths to intemperance. More than one-third of all the infants I have seen die have died prematurely from some one's intemperance, and sometimes, for many cases

in continuous succession, not one would probably have happened during the period of infancy had the parents or guardians not given way to drink. Much valuable and reliable information on infant mortality, which but corroborates my own experience and observation as well as those of many poor-law medical and relieving officers who have favoured me with their testimony, is to be found in the report of the Sub-Committee on the Causes of the Excessive Mortality of Liverpool in 1865. In the course of that inquiry witness after witness, expert after expert, visitors amongst the poor, gaol chaplains, medical officers, relieving officers, and others practically conversant with the facts, give it as their matured opinion that the great cause of mortality among infants is the intemperance of others. Sutton, a recent authority, holds that in 1875, in England and Wales alone, no fewer than 47,107 infants were sacrificed to ignorance and neglect. And what is the great cause of the ignorance and neglect so fatal to the little ones? The money which should have gone to provide suitable education for the children has been swallowed up in intemperate drinking by the parents, and a generation of ignorant fathers and mothers has been the bitter fruit. Let us hope that our new educational legislation will help to remedy this. What is the perennial source of neglect? The drinking of the women; for as soon as a female begins to abandon herself to the drink-craving she becomes slovenly and untidy in her person, negligent and indifferent in the performance of her duties as a wife and a mother. Dr. A. W. Edis, in his inaugural address at the opening of the Middlesex Hospital session on the 1st inst., says that the premature deaths of the 130,000 children dying in England in 1876 before attaining the age of one year were due in great measure to the ignorance of mothers in giving wrong food, and to "the pernicious delusion of nursing mothers that they require to be kept up by alcoholic liquors." Drysdale, the latest writer, declares that "the main or leading cause, which indeed

is so important as to throw the others in the shade, is poverty in the parents. This doubles, trebles, and even quadruples the infantile death-rate. Poverty is the chief factor in juvenile, as it is known to be in adult, mortality." And to what can we attribute the greater part of this disease-and-death-begetting poverty I have seen, and I have the care of a large parochial district? It has arisen from drinking, and I do not know a medical man, or an administrative official, or a poor-law guardian, who thinks this statement an exaggeration. The one mighty enemy we have daily to contend with amongst the poor is drink. The Liverpool report teems with proofs of the truth of this assertion. Since I began to write this paper the wife of a person in comfortable circumstances has been committed on a charge of manslaughter for starving her child, who at five months weighed 2 lb. less than it did at birth. The mother was addicted to habits of intemperance. And I have examined the bodies of many children killed by starvation though the fathers have earned excellent wages, the means of purchasing food for the victims having been wasted in drunkenness by one or both parents. Diarrhœa, convulsions, scrofula, consumption, and nearly all the diseases which cut off our infants prematurely, are not only rendered more fatal, but are to a great extent the immediate proceeds of the legacy of a depraved mental and bodily constitution, bequeathed to them and stamped upon them in indelible characters, without their consent, by the intemperance of their parents. Fevers which work such havoc among children though not originated by alcohol, are fostered and spread as well as tipped with deadly venom by the dirt and overcrowding directly resulting from intemperance having absorbed the rent of healthier and more commodious dwellings. Then there is the large class of deaths from suffocation. Who, familiar with the truth, does not know that the great majority of these are the offspring of excess? In Liverpool alone, in 1872, 165 infants were suffocated, mainly by drunken

mothers. In one day Dr. Lankester held seven inquests on children smothered through the drunkenness of that parent of whom an inspired writer has said, "Can a mother forget her sucking child?"

At an inquest held in March, 1876, the deputy-coroner for Middlesex remarked that in that district alone 300 children were suffocated annually in bed, seven-tenths of the cases occurring on Sunday mornings, and that such cases might be explained as very often the outcome of parental over-indulgence in drink. The Birmingham coroner affirmed, in 1876, that most of the cases of infant asphyxia that had come under his jurisdiction had been caused by the drunkenness of parents; and Dr. Hardwicke, one of our most indefatigable and painstaking coroners, has again and again called attention to the alarming amount of overlaying little children by parents in a heavy drunken sleep after spending a goodly portion of their Saturday's wages in drink.

Mr. Wakley, the well-known coroner, amply corroborates my figures. Of 1,500 inquests held by him yearly he attributed at least 900 to hard drinking, and he believed that from 10,000 to 15,000 persons died annually from the same cause in the metropolis on whom no inquest was held. The population of the United Kingdom in 1876 was nearly 33,290,000, and, as the population of London was 3,489,428, we may compute the latter as rather more than a tenth of the former. Taking the mean of Mr. Wakley's estimates, or 12,500, this gives a nett mortality from hard drinking over the whole kingdom of 119,252. It is often well-nigh impossible for the coroner, charge he ever so plainly, to persuade juries to return a verdict of "acceleration by drinking habits," or "drunkenness;" for, as these gentlemen are usually summoned from the locality in which the deceased resided, they are generally reluctant to cast any stigma on his character even when the evidence is clear and indisputable. And when both coroner and jury do their best it is often impossible to extort the truth as to the habits of the

deceased. A few days ago I attended an inquest on the body of a young man who was found on *post mortem* examination to have died somewhat suddenly from disease of the brain, heart, and other vital organs, which the medical witness could account for in no other way than as arising from alcoholic poisoning, but the friends stoutly maintained that the subject of the inquiry had been temperate to abstemiousness. And yet, after the investigation had been closed, and a verdict of "death from natural causes" returned, it was frankly admitted that deceased had been "on the drink" for some time.

Again, to try an estimate on another basis, in public institutions in England and Wales, in 1876, there died 46,235, in Ireland 13,636, and in Scotland probably at least 11,000, making 70,871 in all. These institutions comprise hospitals, workhouses, infirmaries, lunatic asylums, &c. What proportion of these deaths ought to be put to the account of intemperance? Dr. Gordon, of the London Hospital, at one time found sixty-five per cent. of the admissions through drinking; a distinguished physician to one of the largest hospitals in Britain tells me he is quite certain two-thirds of the admissions and deaths are from drinking. Professor George MacLeod says that nearly all the surgical cases in the Glasgow Infirmary are from drink. In one provincial hospital last year 379 persons were drunk when admitted, and from every quarter comes so loud a complaint of the very large proportion of hospital admissions from abandonment to alcohol that a leading medical journal has actually proposed that the liquor consumed in towns ought to be made to defray the hospital expenditure it has necessitated. Of the entrances into lunatic asylums forty per cent. are acknowledged by so competent and unprejudiced an authority as Dr. Shepherd to be the issue of intemperance, and one-half of the patients received in fever hospitals are by a host of physicians to these institutions said to be intemperate. As to workhouses there is a general consensus of skilled opinion that 75

per cent. of the inmates are indebted to drink for their pauperism, the universality of this conviction being aptly illustrated by the late popular comedian, John Reeve, who, when he was asked by a ragged and drunken woman the nearest way to the workhouse, tapped the gin-bottle in her hand with his cane, and replied, "This is the direct road, madam." On one day recently Dr. Hardwicke held inquests on two inmates of Paddington Workhouse Infirmary, one a man of thirty-six, and the other a woman of twenty-six, a verdict of death from intemperance being returned in both cases. Can we then be accused of exaggeration if we set down one-third of all the deaths in public institutions as arising from intemperance? This would yield 23,627 deaths. This number is far under the truth, but it leaves an ample margin for any deaths that may be reckoned a second time under the following head.

Nearly 23,000 persons died from violence in 1876 (England and Wales, 18,198; Scotland, 2,839). At least one-half of these may justly be debited to drink, so here are 11,500 dead. Then about 800,000 persons are employed in the manufacture and sale of drink. The intemperance amongst this class is very great, the death-rate being enormous, and if we assume the mortality from this cause to be only $1\frac{1}{2}$ per cent., we have here 12,000 deaths. The mortality of publicans is so serious that the Registrar-General's reports show that 138 die for every 100 employed in seventy leading occupations; and in his last annual report he draws attention to the remarkable increase in the rate of mortality among grocers at every group of ages since they have begun to retail spirits.

This gives, with the infantile mortality previously determined, 112,127 deaths, so that we have only 7,873 deaths for the remainder of the population in order to reach our estimate of 120,000.

I have gone over the records for two recent years of the officer of health of a populous borough, and have been astounded at the facts brought to light. He had traced the history of most of

the deaths in the district, and had found numbers of cases which had been registered as simply deaths from cirrhosis, hepatic disease, dropsy, apoplexy, phthisis, &c., to have occurred in the persons of well-known drunkards. Ten per cent. of the deaths at all ages he had clearly discovered to be from the effects of intemperance, and in the early period of middle life the mortality was as high as 35 per cent. Dr. Lankester was of opinion that one-tenth of the entire mortality amongst us directly resulted from alcoholic poisoning; and many coroners have given public expression of their belief that no one had the faintest conception of the real loss of life through drinking. My friend, Dr. Hardwicke, coroner for Central Middlesex, has a mass of interesting and valuable information on the diseases, accidents, and deaths occasioned by intemperance, collected during his career as medical officer, and in his official capacity as coroner, and I trust that the overwhelming duties of his present responsible post will not long prevent him from collating and making public the results of his large and rapidly-accumulating store of facts.

In the foregoing computations intemperate drinking only has been considered, no notice being taken of the ordinary limited or careful use of intoxicating beverages. The official returns of the United Kingdom Temperance and General Provident Institution show a mortality in the moderate drinking section of seventeen per cent. higher than in the abstaining section; an analysis of my own professional experience, applied to all drinking, limited and unlimited, points to a minimum mortality of 200,000; and I am convinced that Dr. Richardson, no mean authority, was much nearer the truth than any of us supposed when he said

that were England converted to temperance, the vitality of the nation would be increased one-third in value, or, in other words, nearly 227,000 lives would be saved to us every year.

I am the more confirmed in the accuracy of my figures from finding that the eminent statistician, Mr. William Hoyle, had some years ago, on different bases, assessed the loss of life through alcoholic indulgence at 120,000 souls. Whether the estimate of the mortality from intemperate drinking which I have thus fully laid before you, and which is very much larger than any hitherto propounded, be accepted or not, I trust that some steps will be taken to collect the records of the causes of deaths occurring in the practice of a number of medical practitioners in various parts of the country, that we may arrive at some definite idea of the extent to which intemperance is destroying our population. Such an inquiry ought to embrace—1. The total number of deaths from all causes, certified to the registrar or testified to before the coroner by each reporting practitioner. 2. The number of deaths in which intemperance is certified or testified as being the immediate cause of death. 3. The number of deaths in which intemperance is returned as a secondary or accelerating cause of death. 4. The number of deaths in which, though intemperance has not been named in the certificate, intemperate habits are known to the medical attendant to have caused or contributed to the death. It would be of great additional importance to divide all these four returns into two classes; one where death has been caused or accelerated by the intemperance of the deceased, and the other where death has been caused or accelerated by the intemperance of others.



THE ALCOHOL QUESTION AND THE "CONTEMPORARY REVIEW."—The *Lancet* states that the January number of the *Contemporary Review* will contain articles by Sir H. Thompson, Dr. Risdon Bennett, Dr. Radcliffe, Dr. Quain, Mr. Brudenell Carter, and others; "so that there will be no lack of views, variously expressed."

THE MORTALITY REFERABLE TO ALCOHOL.*

By THOMAS MORTON, M.D. Lond., &c.

THE determination of the mortality due to alcohol is a matter of very great interest and importance, and the discussion of it is made especially appropriate at the present time, as attention has been pointedly drawn to the question in the last Report of the Registrar-General, issued this autumn by Dr. W. Farr, our highest authority on vital statistics.

Dr. Farr's estimate, or rather enumeration, of the deaths from alcohol in England and Wales for the year 1876 is a very low one, comprising in fact only 1,120 deaths returned under the head of intemperance, or one of its synonyms, and including 462 from delirium tremens. In the absence of any intimation to the contrary, it is clear that he regards these figures as correctly representing the mortality from drinking, as he takes occasion to found upon them a very scholarly disquisition, couched in a complacent and hopeful tone, tending to show that the ravages of drink in this country are not so serious as they are sometimes represented, and need no heroic remedies for their eventual extinction.

I desire to speak with every possible respect for Dr. Farr, but his high attainments and services make it only the more important that any erroneous conclusions to which he may have been led, and which go forth with the authority of his name, should, if possible, be corrected; and I think it will be evident, almost before I point it out to an audience of practitioners, that his conclusions are vitiated from their very origin by an oversight, which, when we come to think of it, is as easy for a statistician to make as it is for us to detect. His business is with the returns, while we are brought face to face with the individual facts on which those returns are based, and we know how small a proportion of the deaths really due to drinking are certified

under any such heading, as "Intemperance," and how impossible it is that they should be under the present system of registration.

Dr. Farr may very possibly have hardly signed a death certificate for a quarter of a century, and the whole thing is just an instance of the importance of a question being examined, not merely by the highest intellect, but also from various points of view; the point of view of the ordinary general practitioner being in this particular case more advantageous than that of the most accomplished statistician.

I said just now that we knew how small a proportion of the deaths from drinking is certified as such, but the expression is inexact, as I venture to say that hardly one of us could tell with any certainty what that proportion is. If we knew it, it would enable us easily to calculate the deaths from alcohol; and it is in like manner by means of a proportion, namely, that between the real number of such deaths, and the deaths from all causes, that I have in a small way been trying to solve, or show the way to solve, the problem.

The only means of determining this proportion is, of course, to go "behind the returns" straight to experience of individual practitioners, who fortunately possess in the counterfoils of their death certificates a record of every death which occurs in their practice sufficiently full to recall to their minds the leading features of each fatal case for several years back.

It is a great pity that men do not preserve their books of counterfoils with more care, as they contain a mine of information, not only on this but other subjects. The existence of this mine has been lately noted by Dr. Richardson; and Dr. N. Kerr has already scratched the surface to some purpose.

The interesting paper read by Dr. Norman Kerr before the Social Science Congress last month dealt with the

* Read before the Harveian Society of London, Nov. 21, 1878.

whole mortality, direct and indirect, traceable to the abuse of alcohol; and if we are at first staggered to find his enormous estimate of 120,000 deaths a year endorsed by the high authority of Dr. Hardwicke, we must bear in mind the intimate connection between intemperance and poverty, and the vast effect of poverty as a factor in raising the death-rate, especially among children.

This is a matter, however, rather of social than of medical science, and I offer no opinion upon it to-night. My own inquiry has been limited to the smaller and simpler field of the *direct* mortality, by which I mean the mortality caused to men—and women—by *their own* intemperance. This implies, of course, with a very few exceptions, the further limitation to the adult period of life; and I ought to mention the further limitation, that my figures apply only to England and Wales.

What I have done, then, is simply to induce as many of my friends as I could prevail upon to ransack their counterfoils for a few years back, and report to me how many adult deaths they could find particulars of, and how many of these they could fairly set down as having been caused by drink, either wholly or partially.

The results are shown in the annexed Table (No. I.), detailing the sets of cases furnished me by my several correspondents; upon which it is necessary to make some remarks. In the first place, the period of life dealt with is from 25 to 75 years of age. I should have preferred 20 to 70, but I found it would not compare so readily with the Registrar-General's figures, which fall into decennials of 25-35, and so on. I might have taken the whole adult mortality from 20 years onward, but the period of 50 years which I have selected contains the great bulk of the alcoholic deaths, and I thought it better to isolate, as it were, this principal mass, and deal separately with it by the best means at my disposal, leaving the comparatively exceptional cases outside it to be afterwards estimated by other means and added in. The years be-

fore 25 contain comparatively few alcoholic deaths, except those by delirium tremens and violence; and they are loaded with cases of phthisis; and the years after 75 naturally yield comparatively few deaths from drink, because few intemperate people live so long. I confess, however, that I have been surprised at the number which fall beyond this limit, especially in the female sex. Thirty-five to 65 is, however, the period in which these deaths are vastly most numerous; and, I believe, Dr. Hardwicke estimates them at not much less than half the total mortality at those ages.

In the next place, the deaths wholly due are distinguished from those partially due to drink. The examination of my own cases, with which I began, led me to believe this to be advisable. Persons addicted to drink do not, of course, always die of drink in any degree, and there is a tolerably well-marked distinction in practice between those cases in which persons unmistakably die of drink and nothing else, and those where it constitutes only one of the factors which bring about a fatal result, co-operating, it may be, with ordinary degenerative changes, with accident or violence, with exposure, or with poverty. It may be said that the accident, the exposure, or the poverty, is probably itself the result of the intemperate habits; but, after all, it would hardly be fair to put all these cases into the same category, as cirrhosis, or delirium tremens. The distinction is a real one, and I have no doubt that by adopting it I have saved my correspondents a good deal of thought and trouble.

The list of sources is a tolerably varied one, but not sufficiently so to be as thoroughly *representative* as I should have wished to make it, either in point of locality or social grade. Living, as I do, in the N.W. of London, it was inevitable that too large a proportion of my material should be gathered there; but this is of the less importance, as I doubt very much if the proportion of deaths by drinking differs much in town and country.

With regard to social grade, I am afraid the same cannot be said.

Nearly all my informants have been men practising among the great middle class, in either its upper or lower sections. Some of them dip a little into the artisan class, and in three instances some poor-law cases are returned; but some of the friends upon whom I relied for getting hospital and workhouse cases have, unfortunately, disappointed me.

As 5·8 per cent. of all deaths in England occur in workhouses, and 3·3 in hospitals and asylums, I ought to have had, in order to preserve the proportion, 72 workhouse cases, and 45 from hospitals. Instead of this, I have only, I believe, about 50 from workhouses, and none at all from hospitals or asylums. A distinguished hospital physician, to whom I applied in vain, volunteered the statement

that “amongst hospital patients a very large amount of fatal illness is certainly the result of alcoholic excess;” and it can hardly be doubted that had he cared to send me any cases, they would, as those from the workhouse actually did, have tended to raise the proportion of deaths from drink to a still higher figure.

The omission lays my conclusions open on the one hand to the charge of inadequacy, but it will at least serve to shield them on the other from any suspicion of exaggeration.

The sums resulting from the twenty sets of cases yield, as you see, a proportion of 1 death in 14, wholly due, and 1 more in every 8·38 partially due, to alcohol; altogether, 1 death in 5·24 referable, in some degree or other, to this agent.

TABLE I.

No.	Locality.	Deaths from all Causes at ages 25—75.	Numbers wholly due to Alcohol.	Numbers partly due to Alcohol.
1	London, N.W. ...	139	11	16
2	„ „ ...	102	14	13
3	„ „ ...	46	4	3
4	„ „ ...	35	1	2
5	„ „ ...	41	3	1
6	„ „ ...	18	4	4
7	„ „ ...	72	3	4
8	„ „ ...	34	5	10
9	„ „ ...	24	0	4
10	„ W. ...	41	2	—
11	„ „ ...	53	0	7
12	„ „ ...	31	2	1
13	„ „ ...	34	2	14
14	Guildford	137	3	17
15	Shrewsbury	91	14	18
16	Devonshire	124	3	2
17	„ „	48	6	11
18	Lincolnshire	164	5	9
19	Herefordshire ...	40	2	6
20	London, N.W. ...	91	14	22
		1,375	98	164

98 : 1,375 :: 1 : 14
 164 : 1,375 :: 1 : 8·38
 262 : 1,375 :: 1 : 5·24

TABLE II.

Total Deaths from all Causes, at Ages 25—75, in England and Wales—198,678.

	Wholly due to Alcohol.	Partially due to Alcohol.		
198,678 ÷ 14 =	14,191	—	}	37,900
198,678 ÷ 8.38 =	—	23,709		
Estimated deaths } from alcohol be- } fore 25 years..... }	443	741	=	1,184
Ditto, after 75 years	76	127	=	203
Total estimated } deaths from al- } cohol	14,710	24,577	=	39,287

Applying these ratios to the number of deaths from all causes at the ages 25—75, which is returned at 198,678, we get 14,191 wholly due to alcohol, plus 23,709, partially due to the same cause; in all, 37,900 alcoholic deaths between the ages of 25 and 75.

There remains to estimate by other means the numbers which must be added to represent the corresponding deaths at ages before 25 and after 75.

The figures I have adopted for this purpose are based upon the proportion between the deaths from drinking between 25 and 75, as just calculated by means of the returns of my correspondents, and as enumerated by the Registrar-General.

As so calculated, those wholly due to drinking are 12.67 times as numerous as his cases, and those partially so, 21.17 times as numerous. I have, therefore, multiplied the 35 cases of delirium tremens and intemperance returned by him at ages under 25, and the 6 cases at ages over 75, by those figures, and added the resulting sums to the proper columns in Table II., which gives the calculations based upon these ratios and those derived from Table I.

Partly, however, in order to test these figures, and partly to illustrate alike the difficulties and the interest of the subject, I have made an attempt, as is seen in Table III., to estimate this part of the mortality through the medium of the deaths returned under

their several causes in the Registrar-General's Report and the ratio which I conceive to exist in each case between the number of deaths referred to liver or kidney disease, or what not, and the number of alcoholic deaths really buried under it.

These ratios are, of course, arbitrary—neither more nor less, in fact, than guesses—and I am aware that this part of my remarks is the one most open to criticism, which, I need hardly say, I shall very freely welcome, as it is only by a comparison of the impressions left on the minds of various men by their own various experience, that such guesses can be corrected into a near approximation to the truth.

Most of the ratios which I have employed are not, however, so entirely arbitrary that reasons cannot be given for their adoption. For instance, alcohol is admitted to be almost the exclusive cause of true cirrhosis of the liver, and it is fair to assume that 4.5ths of the cases are correctly referred to it by the certifiers. Of other forms of *fatal* liver disease, in a temperate and non-malarious climate like ours, there would be—exclusive of cancerous cases—but little were it not for alcohol; and I think I have allowed a very ample margin for cancer, for the effects of over-eating, for hydatids, and for returned tropical residents, in adopting the ratios you see in the Table.

Hæmatemesis and melæna, except in young women, we know to mean

cirrhosis more often than not, especially when fatal. The deaths from this cause among men exceed those among women by a considerable number—generally a sure sign of the influence of alcohol where there is nothing else to account for it—and this in spite of the far greater prevalence of gastric ulcer in the other sex, so that I do not think the ratio of 1-3 will be objected to.

Dyspepsia and pyrosis are very remarkable causes to be answerable for 235 adult deaths, unless, as I suspect, they are little more than euphemisms for alcoholic disease; as, however, we are now dealing with only the 75 cases at the two extremes of adult life, I have only adopted the very low estimate at 1-8. "Stomach disease—undefined," at the same rate, gives 27 additional deaths from alcohol.

TABLE III.

Disease.	Deaths under 25.	Deaths over 25.	Together.	Ratio.	Estimated Deaths from Drink.
Intemperance and Delirium)					
Tremens)	35	6	41	1-1	41
Cirrhosis)	19	91	110	4-5	88
Liver Disease)	59	324	383	1-4	96
Hepatitis)	19	105	124	1-5	25
Jaundice)	19	177	196	1-5	39
Hæmatemesis and Melæna...)	11	64	75	1-3	25
Dyspepsia and Pyrosis ...)	5	57	62	1-8	8
Stomach Disease (undefined))	36	183	219	1-8	27
Bright's Disease, Nephritis,)	278	506	784	1-10	78
and Uræmia)					
Phthisis)	4,851	148	4,999	1-50	100
Insanity)	24	168	192	1-6	32
Paralysis and Apoplexy ...)	225	5,640	5,865	1-50	117
Brain Disease (undefined)...)	96	297	393	1-40	10
Cephalitis)	195	19	214	1-40	5
Heart Disease)	594	3,410	4,004	1-60	66
Bronchitis)	207	4,131	4,338	1-50	87
Pneumonia)	576	757	1,333	1-30	44
Congestion of Lungs)	41	324	365	1-25	14
Lung Disease (undefined) ...)	34	72	106	1-25	4
Ascites)	12	73	85	1-6	14
Dropsy)	30	700	730	1-25	29
Gout)	—	80	80	1-2	40
Cancer)	52	1,081	1,133	1-100	11
Atrophy and Debility)	21	—	21	1-10	2
Zymotic Diseases and Rheu-)	2,010	1,829	3,839	1-100	38
matism)					
Accident or Negligence ...)	1,022	731	1,753	1-30	58
Homicide)	16	3	19	1-4	4
Suicide)	124	62	186	2-5	74
Sudden Deaths, cause unas-)	48	209	257	1-10	26
certained)					
Not specified, or ill-defined...)	17	68	15	1-10	8
	10,676	21,315	31,991	—	1,210

The degree of influence of alcohol in producing kidney diseases is very difficult to estimate, but here again the greater prevalence of mortality from this cause in the male sex—it is nearly double—is not nearly sufficiently accounted for by exposure alone, and will I hope be held to justify my estimate of 78 deaths, or 1 in 10.

With regard to phthisis, I have simply adopted the estimate of 2 per cent. arrived at by Dr. Richardson's careful analysis of a large number of cases, and never, so far as I know, impugned.

Similarly, with regard to insanity, 1-4 seems to be about the mean of the various estimates put forth by competent judges; and as I am dealing with only a portion of the mortality, I have adopted a somewhat lower figure.

The cerebral affections under the next three heads are, perhaps, the most difficult of all to estimate; but it is certain that a good many cases of apoplexy and paralysis, even after the seventy-fifth year, are in some measure due to past alcoholic excesses. It must be remembered also that only 38 per cent. of the 117 are claimed as *wholly* due to alcohol; and although the effect of embolism must not be overlooked, it is hard for any one who knows the degraded masses of our great towns to believe that even out of 225 deaths under the age of 25, as many as 40 referred to a disease so uncommon at that age, were not really due to alcoholic poisoning.

To attempt an estimate of the next item—brain disease—is little better than making a guess about other people's guesses; but the indefiniteness of a heading generally justifies a suspicion that alcohol cases are hidden under it, and in this case the numbers involved are not large enough to be important.

Under the equally indefinite heading of cephalitis, only the very moderate sum of five deaths is claimed. I have reason to believe that cases of violent delirium, sine tremora, or mania-a-potu, which occasionally prove fatal, are returned under this head.

Heart disease is a very difficult item to estimate for our purpose, but when the direct agency of alcohol on the circulation, its power in promoting fatty and other degenerations, and the improbability, to say the least of it, of 4,000 Englishmen being all of temperate habits, are fairly considered, I do not think my estimate of 66 under this head will be considered excessive.

Under bronchitis, I do not suppose that many of the old people succumbing after the age of 75 can be claimed as victims of excess; but there are a sprinkling; and of the 207 dying at so early an age as 20-25, I believe a large proportion would be found to be previously enfeebled by drink and dissipation.

The same remarks apply to the 576 early deaths from pneumonia—a disease in the prognosis of which alcoholism plays a most important part—and if I have at all overstated the case as regards bronchitis, I am sure the balance is redressed by the extreme moderation of my figures under pneumonia and congestion of the lungs.

To ascites I have ventured to apply a high ratio, because it is so often the last act in the drama of cirrhosis. "Dropsy" comprises enough of these cases to justify the numbers I have claimed, perhaps even without supposing an alcoholic element in any of the cardiac and renal cases which make up its bulk.

Gout is another of the causes of death in which the males immensely preponderate. Few, if any, people *die* of gout, whose allowance of liquor has been such as this Society would authorise for them; and I might have set down all the deaths, instead of half only, in my last column without much room for objection.

"Cancer" may be thought to need some apology, even when estimated at 1 per cent.; but I shall, I think, be borne out in saying that there is a good deal of secret drinking among women who are the subjects of this sad complaint; and I believe I have estimated its fatal results as tenderly as I should, in their case, be disposed to judge it.

It may surprise some to see any

mention of zymotic diseases (with which is grouped rheumatism); but the question of prognosis in the intemperate here again comes into play, as well as the probability of drunkenness in some individuals of so large a class, and I believe the facts would have justified a higher estimate.

In the next three figures I do not suppose a jury of publicans would find me guilty of exaggeration. Of the 58 estimated deaths from accident or negligence, 22 are actually specified as due to intemperance in the returns; while of the 186 enumerated deaths from suicide, 133 are of men, against 53 of women, leaving a balance actually larger than my own figure, 74. The great disproportion of male and female suicides (1,312 against 458 in the year 1876, with which we are dealing) is very remarkable, and can hardly be due to anything but the greater intemperance of men. Pecuniary anxieties doubtless sit much heavier on the man, but the quicker affections of the woman, and the utter ruin to which a false step may bring

her, should seem to make the balance even, were there not some disturbing element.

I will not detain you over the last two items, but pass on to the resulting number, which comes out as 1,210. This corresponds quite as closely as could be expected with the number 1,387, arrived at by a quite independent method, as explained a few minutes ago; and as this was obtained by a—comparatively speaking, of course—more scientific method, I shall discard the more arbitrary—and, I think I may safely say, less adequate—estimate, and adopt the figures 1,387 which, added to the figure 37,900 at which we estimated the alcoholic deaths between 25 and 75, will give the grand total of 39,287 as the best estimate which, after some pains, I have been able to make of the number of persons who die annually in England and Wales from the effects of drink in a greater or less degree (see Table II.); 14,710 of these being wholly, and the remaining 24,557 partly, so caused.

TABLE IV.

Causes of Death, arranged in the Order of their Fatality.

Disease.	Total Deaths.	Deaths over 20 years.	Deaths from 25—75.
Bronchitis	54,055	29,368	21,603
Phthisis	51,775	40,055	33,374
Heart Diseases	30,481	28,405	23,878
Atrophy and Debility	14,364	3,434	3,413
Old Age	25,461	25,461	1,919
Convulsions	25,408	73	52
Pneumonia	24,492	10,161	8,828
Diarrhœa	21,781	2,944	1,833
Apoplexy	13,215	12,116	9,558
Cancer	11,604	11,315	10,179
Paralysis	11,994	—	—

These are startling figures indeed; more so, I confess, than I was prepared for at first; but their full significance is not seen until they are compared with the figures representing the mortality from the other principal causes of death as given in the Registrar-General's Report, and set

out in Table IV., where the number of deaths at all ages is given in the first column; the number after 20 years of age in the second; and the number between 25 and 75 years of age in the third.
And here it should be borne in mind that the deaths with which we

are dealing are all those of adults, and, in very large proportion, adults under 65—the fully-grown, productive, responsible, men and women, heads, probably, of households—the present generation, to whom the name and fame, the honour and the interests of England, are for the time committed. So that their deaths cannot be compared against those of children, number for number, but with due consideration of their greater social and economic weight.

Thus bronchitis is the disease which stands highest on the list for fatality, but so large a proportion of its victims are infants that its ravages among the adult population fall far below those of alcohol if both the degrees of alcoholic mortality be taken together, while at the ages between 25 and 75 they only exceed by a-third the mortality *wholly* due to drink.

Phthisis, however, which stands next, levies its fearful tax chiefly upon the adult population; but even here the tale of adult deaths only just rises above that from drink, and when it is shorn of the 800 alcoholic deaths which raise it two per cent. above its proper level it, too, falls below alcohol.

Heart disease, also chiefly fatal to adults, falls considerably below it in each of the three columns.

Atrophy and debility have little to do with adult life, and what little they have is not unconnected with drink.

Old age, which ought to throw all other causes of adult mortality into the shade, is robbed, largely by alcohol, of its due predominance, and falls below it.

None of the remaining causes of death come anywhere near it, and in none of them does the adult mortality even reach the level of the 14,700 deaths wholly caused by alcohol.

Surely, if anything like this is the truth it cannot be too clearly elicited or too widely known, and I hope that the Harveian Society, following the excellent precedent of a few years back, when committees of the Society collected a large and important body of information on the subjects of contagious diseases and infant mortality, and it was able materially to influence

legislation on the latter subject, will appoint a committee to follow out on a larger scale this or some other of the lines of inquiry by which the whole truth on the subject may be elicited and placed beyond doubt.

IMPORTANT DISCUSSION.

Dr. CLEVELAND expressed the indebtedness of the society to Dr. Morton for his able and interesting paper. No one could doubt that the excessive use of alcohol was a very great pathological factor, but what was the issue to be raised by this paper? Was it to disprove the figures of the Registrar-General, or was any question to be raised upon the use of alcohol in disease and health? Startling as Dr. Morton's figures were, they must be received with caution. In every case where one had to determine a cause where there were several factors they must be careful not to put down to alcohol what might not be due to it. If these figures were correct, then a very important matter had to be sifted. It was only by investigations such as these that they would know more about the influence of alcohol in determining death than they appeared to do now. How was it to be ascertained for a fact that a patient had died from the use of alcohol when there were several other causes at work in producing the disease? He imagined that the use of alcohol in disease could not be gone into now, nor how patients were to be prevented from taking it. (The President: No.) Then he had nothing more to say.

Dr. NORMAN KERR said that if this society, or any other body could prove that Dr. Morton's conclusions were wrong, or that those he himself adduced before the Social Science Congress were founded on error, then they would both be delighted to have their mistakes pointed out. Far be it from them to exaggerate, but they were determined if possible to let the public and the profession know the actual truth. As it was, it appeared to him that everything that had hitherto been

done had really been under the truth, and though they should receive everything with caution, they should not close their eyes to obvious facts. If it were not for drinking the great mass of the profession might retire from it to-morrow, because it was the one thing of all others combined which gave them employment—whether it be the secret drinking of the ladies, or the open drinking of the gentlemen. In regard to the paper, it seemed to him very difficult to distinguish between the deaths wholly caused by alcohol and those partially caused. They could tell at once if a man were killed by a strong dose of alcohol, but this process of alcoholic poisoning might go on for years, after which they would get a number of diseases, developed not immediately, but really and truly originated by the alcohol. He found, on looking at his own statistics, that he was obliged to put down to the “partially caused” that which really ought to be debited to the “wholly caused.” It was impossible to separate the two definitely. A word as to the ages dealt with. In looking over his counterfoils, he had seen most distressing cases of people who had become intemperate after the age of seventy-five. Only within the last year, a most distressing case of a clergyman had been brought before him, who became a drunkard in his eighty-seventh year, and his son, a barrister, had become a drunkard in his forty-seventh year, and cases were known to him amongst females of the same kind. Going to the other extreme, he had seen a young girl with cirrhosis of the liver brought on by alcohol given in excessive quantity for the age of the person affected. The truth of the matter seemed to be that there was a much greater mortality referable to alcohol than even Dr. Morton had ventured to assign. Dr. Morton’s statistics, through no fault of his own, were necessarily imperfect, because they practically excluded all public institutions. That would at once raise the mortality from alcohol. Everybody connected with workhouses that he knew admitted that the great bulk of the

deaths there arose from intemperance. Dr. Morton’s calculation of the deaths from personal indulgence in alcohol was 42,144 if applied to the whole kingdom; and though his (Dr. Kerr’s) was less, Dr. Farr had accused him of exaggeration. Yet Dr. Morton had arrived at practically the same conclusions by an altogether different and independent process. As to the special diseases induced by alcohol, he had never known a case of gout in a life teetotaler, or a teetotaler of long standing, save in a baronet who inherited it from his grandfather. Since writing his paper he found that forty-five per cent. of all his cases of death last year were due to alcohol either directly or indirectly. With all their efforts it seemed they never could arrive at the whole truth. In regard to insanity, Dr. Morton might have put it much higher than one in four. Dr. Shepherd said:—“Forty per cent. of insanity is due to alcohol either directly or indirectly.” He (Dr. Kerr) found drinking and its consequences just as prevalent amongst the scattered populations of rural districts as amongst the crowded populations of towns and cities. He concluded by seconding Dr. Morton’s proposition.

Dr. HARDWICKE said he had been that day spending some time in getting up the statistics that were under his care with regard to inquests during the last four years, and he was only sorry he had been unable to get them ready in time to be embodied in Dr. Morton’s paper. However staggering might be the figures arrived at by Drs. Morton and Kerr, his firm belief was that they were considerably under the mark. They, by two processes, came almost to the given result of, say, 40,000 deaths, whereas he, by a different mode of estimation, came at a higher number, which he had thought he could substantiate if he could properly occupy the time here to do it. Failing that, he proposed to elucidate two sources of information which would throw a great deal of light on the matter. His statistics referred to the inquests he had held during his four years of office, and he had excluded all cases under

sixteen years of age. He presumed that no cases connected with drink were under that age, although possibly there might be some. That gave the number of inquests at 930, 944, 908, and 854 respectively, or say 900 inquests had been held by him each year. Out of these 900—67, 88, 30, and 49 were returned in the verdict as died from alcoholic poisoning or drink direct. That was very few out of 900, but looking at the suicides—80, 81, 100, and 84 per annum—these were nearly all due to drink. He did not think that more than 4 or 6 per cent. of suicides were not almost immediately preceded by drink—at least, before the suicidal influence came upon them. The accidental deaths, numbering 439, 488, 487, and 426, had been taken at a low estimate in regard to their relationship to alcohol. He had taken them simply at half, but the proportion was larger. The accidental deaths were in fact nearly all more or less caused by drink, either on the part of the persons injured or those injuring them. There was another class of cases that had been returned under the head of want, privation, destitution, starvation, and these amounted to 64, 24, 20, and 47. They also were more or less connected with drink, but the sole reason why they had not been so returned was because they were not persons known to be of drinking habits. He had therefore allowed them to be returned under the more immediate cause of death. His belief was that nearly all such cases arose from drink. Out of the 900 cases, 450, or nearly 50 per cent., were more or less directly or indirectly connected with drink—he was speaking of the adult cases—and even this was considerably below the mark. During the time he was medical officer of health in this parish it was astonishing to observe only three or four cases returned in the registration certificates of death from delirium tremens or alcoholism. He knew that was wrong because a great many cases were personally known to him. For several quarters he took out the number of cases on purpose to verify them, and see whether or not they were connected with drink, but as he never

could venture upon the publication of facts of a sufficiently reliable nature without having applied to them a considerable amount of dispute and doubt, he had allowed the thing to stand over, but the papers prepared for this purpose at that time came in very useful now. He had the returns for five quarters, and each quarter he found that there were from twenty-five to thirty cases that were “smuggled up” cases, and returned under the different headings on Dr. Morton’s tables—the kidney cases, for instance, representing an enormous amount of drinking, but they were put down under every kind of name save the right one—alcohol. Thus from 100 to 120 deaths were occurring from the direct effects of drink within the district over which he had supervision—the total number of deaths from all causes being about 2,000. Thus, the mortality was considerably accelerated by drinking; but no medical officer of health had as yet attempted to show how much this was the case. It opened to the profession the most lucrative field for investigation that could be had, and it would be a great credit to the society to investigate it in the manner in which Dr. Morton had suggested, for he felt sure the results would exceed the expectations of a great many of its members. If they were fairly and honestly arrived at he believed there was nothing of more public importance that could be just now done in the way of medical investigation. He would be pleased personally to assist the movement.

Dr. B. W. RICHARDSON, on being asked by the President to speak, said he had really come to listen to the paper which he knew Dr. Morton would read to the satisfaction of this society, because that gentleman’s mind was so exceedingly clear, and he put everything before them when he spoke or wrote with such care, that he was sure to be rewarded for any trouble he had been at in coming. He could not now but say that hearing the paper had been to him a source of profound satisfaction, because he believed that his was the first voice that had called attention to the enor-

mous mortality that springs from alcohol—at all events, the first voice that had been heard on the matter on the facts themselves; for although many philanthropists had before his time spoken generally of this subject, yet they had spoken as they had done in reference to the action of alcohol in lowering the temperature; and just as it was his fortune to make that a matter of experimental inquiry, so it was his to make this a matter of statistical inquiry, and about five years ago he pointed out that the mortality in the adult population directly and indirectly traceable to alcohol might possibly be estimated at a third of the whole adult mortality. The observation was received with incredulity, and naturally when he now saw that facts were coming forth day by day to prove it true, the whole social question being taken into consideration as well as the purely statistical, it was naturally a source of satisfaction to him. He was particularly delighted that a member of his own profession had undertaken this subject of inquiry and not left it to any one outside; and for the method pursued, he (the speaker) was very grateful. It was the method that first struck him—namely, to analyse carefully the certificate of death book. He obtained himself some of these books, and made a series of observations, not very extensive, but all bearing on the same facts, and leading almost entirely to the same conclusions as those in the paper. He trusted the society would look into the certificate of death books of practitioners over the whole of the kingdom if it were practicable to do it. It was a matter of some labour and some expense, but from it a series of observations would be completed which, he had no doubt, would entirely support Dr. Morton's conclusions, and bring out in the face of the country some of those facts which ought naturally to come first from the medical profession. As to the Registrar-General's last report (continued Dr. Richardson) I am going to speak with the utmost respect, and I may say affection, of my old friend, Dr. Farr. I have watched

his labours for nearly thirty years, and he actually was once so gracious as to allow me the first insight into some returns of his, so that in a course of lectures on industrial diseases I was able to take the kernel out of one report and put it first before the world. When this recent report first came into my hands, containing the letter from Dr. Farr on alcohol, I was perfectly startled to see it put forward that in one year there were only 164 deaths returned from alcoholism in the metropolitan district, while there were 18,000 deaths from zymotic diseases, and over 89,000 deaths from all causes. Immediately this was thrown in my teeth, and in the teeth of other abstainers, that we were misleading the people. It was a most startling statement to make, and it will take some months of laborious contradiction to prove it obviously wrong, because the great authority of my friend is received everywhere as if it were to be accepted without demur. And yet, when you come to look at that report, you see it is self-contradictory. Almost immediately afterwards it gives you a table of publicans, and shows that the deaths of publicans as compared with clergymen (and we are not going to take them as absolutely perfect, but as good men as a rule) are as two to one on the part of the publicans compared with the clergy of this kingdom; and, in regard to particular ages, that at some ages the deaths are nearly three to one. Now, when we come to analyse the facts, what does all this mean? Why do publicans die in such numbers? What is the reason? By what diseases are they returned in the Registrar-General's returns that they should show this excess of mortality? They lie at the bottom of the scale. There is nothing beneath them but cabmen, who are much exposed, and, as a class, drink heavily, and potters, who have one specific form of death from the inhalation of dust. I ask, why is this? When you begin to look at the causes you see that the publicans suffer and die from the very affections which Dr. Morton has pointed out as being peculiarly alco-

holic in their character. And when you begin to compare the mortality of publicans with that of the mean mortality of seventy different forms of occupation, you find that taking the standard of a hundred for the seventy occupations there is a mortality of 138 in the publican class to the 100 of all classes. If you begin to work that out, you will come upon conclusions as nearly as possible identical with those that Dr. Morton has put forward. Dr. Farr, with like candid inconsistency, I am bound to say, also refers to the mortality of grocers as greatly increased from 1860. Since these men began to sell spirits they have commenced to die in greater numbers. Between 1860-70 the proportion has risen until at last, in 1870, the mortality of grocers is at all ages something above, and at one age of life is positively over, 11 in the 1,000 above what it was. This addition is so startling that one can scarce credit it, yet so it is. Thus, while we take Dr. Farr's general statement as something startling, when we take the whole of his report, it confirms, in fact, these figures which Dr. Morton puts forward. I would say that his (Dr. Morton's) estimate is of the most moderate character. It takes in none of the collateral circumstances. It is the bare fact, placed always with moderation, and sometimes with something extracted that might belong truly to the alcoholic side. For example, Dr. Morton said he had extracted the cases of death arising from separation of fibrine in the vessels of the brain. He took these cases as if they were not necessarily alcoholic in character. Now, that has been a line of research which has been specially my own. Few people living have seen more cases of obstructed circulation from separation of the fibrous constituent of the blood than myself, and I am bound to say that there are very distinct physiological reasons why the large number of people who suffer from that form of apoplexy are persons who drink. Physiologically the blood of such men is in the same state as that of sailors during the time when they

are suffering from scurvy. Nothing is so easy, when the blood is in this state of trembling equilibrium, for there to be a temporary suspension of circulation in the brain, and coagulation of blood. I should say that nine cases out of ten of that form of disease, if I may judge from those I have seen, have been induced in persons who are of alcoholic constitution. Mr. Morton referred to women living for a considerable time beyond seventy-five, and yet being intemperate. That is a point which has engaged a great deal of my attention. As a general rule we may say that women who commence to drink in the middle of life do not live to an advanced age, but die rapidly. Some men who drink hard do live to an advanced period, but those have been men who have commenced to drink early, men of fine blood and constitution, and they live on drinking; but they have enormous secreting organs, and during the time of their young life the organs, as it were, have adapted themselves to the alcoholic condition, and so such men live on it; whereas men who begin to drink in middle life rarely live to old age. A large number of both sexes begin to drink late in life. Women of sixty, sixty-five, or even seventy, begin to drink to excess, and of late that tendency must, I fear, have increased. There is one more observation I would make, and that is on a disease to which Dr. Kerr has already referred, viz., gout. I agree with him, and say I have hardly ever known anyone subject to gout except a drinker of alcohol. When you begin to treat people who are not subject to alcohol, gout is practically unknown, except in those with a strong hereditary tendency. I have made this the subject of inquiry in temperance families. I once travelled through Ireland, and never visited a family that was not a total abstaining family, where I never saw wine on the table, and I inquired as to the particular form of disease presented, and it was a marvel to find the immunity from several forms of constitutional disease, but gout especially. Taking it all in all, this is a most satisfactory and

yet unsatisfactory result which Dr. Morton has produced—most satisfactory as eliciting the truth, and most unsatisfactory as eliciting the awful truth that possibly 39,287 of our people are yearly poisoned by what I, as a physiologist, declare to be an agent utterly useless to man—except probably in its medicinal form—and altogether out of the Divine scheme of creation as a food for man.

Dr. FARQUHARSON said that if they were to have a committee, he hoped the pathological evidence would be taken on purely scientific principles. A return emanating from this society must necessarily have great weight with the public outside, but the plan of calling out the old counterfoils was almost too absurd to be worthy of much consideration here. Many of them were made without post-mortems, and persons not accustomed to post-mortem appearances hardly knew them when they saw them. The evidence obtained by such a committee should, as far as possible, be from hospitals, where all the lines are laid down rigidly, and the pathological appearances described by fully competent observers. He thought there was too much chance of the coincidence of alcoholism and disease being put down as cause and effect. Because a person happened to drink to excess, therefore another disease was put down as partially caused by that. Now they wanted to know the exact pathological conditions. He did not wish to detract from the merits of the paper, or the great importance of the question, but he would urge strongly that if they were to have an inquiry they should base it upon such pathological evidence as should be beyond dispute in after years.

Dr. FITZPATRICK observed that the gentlemen who had spoken before Dr. Farquharson were familiar by special study with the whole of the alcohol question, whilst those who might be prepared to take a somewhat different view had had no time afforded to enable them to support it by facts. Personally, he would like to give Dr. Morton's facts a little fuller consideration than he could do, only

having been brought face to face with them for the first time. Suppose Dr. Morton deducted from the whole mass of these cases the number of deaths he assigned to alcohol, to what proportion would it reduce the mortality of the kingdom? It was easy to find large populations that did not consume alcohol to any appreciable extent, and it would throw an important light on this question if the mortality tables of those countries could be produced—supposing them to exist. He observed a reporter taking notes, and his chief object in rising was not to allow the statistics to go forth without some show of remonstrance on the part of the Harveian Society against their being considered a scientific expression of the real state of the case.

The PRESIDENT said the matter was one deserving attentive and careful investigation, and he agreed with the last two speakers that it would be unwise to come to a very wide and sweeping conclusion on the statistics brought before them; and also that if it was proposed to produce further statistics of the kind, it would be very desirable to hedge them about with certain cautions and preliminaries, which would have to be very carefully considered before the committee set to work. At the same time, he quite agreed with the idea of forming a committee. In criticising the statistics, he wished to say this, that in each case the inquest had been on every death by the individual who had furnished the information—that was this individual's opinion, and might be good or bad; but it would depend entirely upon the adequacy of the observer. Now, if they were to select a large number of very skilful observers, and get their opinions on the causes of the mortality of the patients, it would be a very valuable thing; but it did not appear to him that the same value would attach to a large number of post-mortems taken from books indiscriminately.

Mr. LAWRENCE suggested that the committee should be selected by the Council of the Harveian Society.

Dr. MORTON: I should be delighted, for I am anxious that it should not be

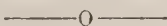
done from a teetotal point of view, but by men who will approach it simply from the medical side.

The motion was carried unanimously.

The meeting then broke up, but not before Dr. Morton, in the name of the

meeting, had been thanked by the President for his paper.

Dr. Norman Kerr, we understand, has been requested to read a paper on the same subject to the Harveian Society a few weeks hence.



THE ALCOHOL QUESTION FROM SIR JAMES PAGET'S POINT OF VIEW.

By ALFRED CARPENTER, M.D.,

President of the Council of the British Medical Association.

ANY opinion given by Sir James Paget must command attention. His paper in the *Contemporary Review* upon "The Contrast of Temperance with Abstinence" is sure to be read by every one interested in the question, and will make many waver in their allegiance to abstention from alcoholic drinks.

I rejoice to find that the editors of the *Contemporary* think the subject of sufficient importance to be again considered in their columns. It proves the growing interest of the public in the question, and makes it evident that the traders in drink are feeling the impulse of the temperance wave which is now spreading widely over the country.

I could have wished that Sir James Paget had seen his way to have expressed himself less unreservedly in favour of the use of alcohol as an article required for daily consumption. Any one reading Sir James's paper will come to the conclusion that, in Sir James's opinion, alcoholic drinks are necessities of life, and should be consumed by all people with their daily food as a matter of course. That moderate drinking tends to promote health and lengthen life; that it increases muscular and mental power; that Western nations owe their superiority to their drinking habits; "and that in the question raised between

temperance and abstinence, the verdict," says Sir James, "should be in favour of temperance" (as against total abstinence). I look carefully through the paper for a definition of temperance, and I find none. Sir James is aware of its difficulty, and declines the task. Let him ask the 100,000 persons who have been convicted of drunkenness in the metropolitan police-courts during the past five years, when they ceased to be moderate drinkers, and they will be unable to tell him. Nay, the majority would deny that they were immoderate, and would assert that they were generally sober people; very many of them are so considered by their immediate friends. Being moderate drinkers they took further liberty in the majority of instances without intending it, and so brought themselves within the reach of the law. Sir James's evidence regarding the evils of intemperance is clear and satisfactory as far as it goes; but his reasoning in favour of moderate drinking is not based upon the same solid foundations. It is true that he is quite right in stating that statistics are useless for comparison as between moderation and abstinence. Men will not acknowledge to being immoderate, and their relatives will deny the soft impeachment of "living too free," whilst many have declared that they are total abstainers when there was every reason

to believe the contrary. In private life it is quite impossible to get any reliable information unless the habits of the individual are personally known to the observer. There is, however, one piece of evidence which is telling in favour of abstinence. Sir James does not like it, and tries to explain it away. The inmates of prisons are taken from a class of people who are addicted to drinking habits, and are subject to great mortality ; but as soon as they get into prison, they really form the very healthiest class among all Her Majesty's subjects. Sir James says it is not abstinence which does this, but many other things. Now there are many other establishments in which work is compulsory to a certain extent, but abstinence is not, but in which the health rate is not anything like equal to that of prisons, and to say that that which is true of prisoners is equally true of the inmates of workhouses, shows that Sir James does not quite realise what workhouse life is, or the difference which notably exists between the health of the one set of persons as compared with the other.

Sir James does not quite like the evidence which physiology affords, and thinks that we must not trust too much to it until experience shows us that its teachings are true. I may ask to whom Sir James will go for these teachings of experience ? I can say most advisedly that my own experience is decidedly against the habitual use of alcoholic drinks, and in favour of physiological observation. I know from personal experience that if I take a glass or two of wine to-day I am not up to my usual amount of work to-morrow. I know also that the same is the experience of every healthy man who is usually an abstainer. Will Sir James take this evidence, or will he submit only to be guided by the experience of those who take alcohol because they have imbibed a liking for it, and are acclimatised to its use ? Will he take the evidence of those who have become acclimatised to the region of Sierra Leone, or of any aguish district where they affirm (as some do) that it is moderately, or even very

healthy ; will he not discount that statement by a reference to those who have succumbed to its deadly influence, and, if so, why should not the evidence of the millions who have been cut off by the abuse of alcohol be taken against its use ? They were all moderate once, and would have voted with Sir James that its moderate use was beneficial to them. I contend that the facts of physiology are practically tested by tens of thousands, who agree with me that the use of alcohol is injurious to healthy people.

Sir James's reasoning with regard to the beliefs of people and their readiness to fall in with custom cannot go for much in favour of his view. Sir James thinks that is proof that the use of alcoholic drinks is not a bad custom. He might argue that the custom of the Chinese to torture their female children so that they might have small feet was a good one upon the same grounds ; or that duelling was sure to show by its result who was in the right. Fighting in single combat has existed as a custom as long as the use of alcohol, and has only fallen into disuse in our own country in our times, whilst it is still held to be a proper thing in some civilised places. According to Sir James, it is " enough to prove that the evidence of the custom being a bad one is not clear."

Sir James says " that from all the witnesses to the evils of intemperance we fail to get at any clear evidence that there is mischief in moderation." Surely this must be a mistake. Surely Sir James could not have listened to the statements made by drunkards themselves. " I never thought I should come to this ; it was the first glass that did it." How often has this statement been made in the prisoner's dock—how often is it heard in the workhouse ? How often have I heard the poor wife say, " If I can but keep Jim from the public-house he is all right, but if he gets a glass of anything I am powerless ?" And yet that glass would be only moderate drinking at first. Sir James considers that a long-abiding custom is proof that it is probably beneficial. Drunkenness itself is a long-abiding custom which has only

recently become a crime, and in some countries it is still regarded as venial. Cannibalism is a long-abiding custom in some parts of the world. Not, it is true, among civilised nations; but why limit custom as proof of beneficial use to civilisation? There is no doubt in the mind of any one that the excessive use of alcohol is vicious, and vice is not a proof of civilisation, although its character is too oft masked by civilisation, and its true aspect not observed. Lewd dances and licentious songs have been in use from time immemorial, and among all nations. Is their continuance any proof of their beneficial use? Why, then, should the custom of the use of alcoholic drinks be regarded as a good one on that account?

Sir James takes exception to the statement that the use of stimulants is "unnatural," and considers that their use is as natural as that of potatoes, wheaten bread, or tea and coffee. He has quite forgotten the one great difference between those things and alcohol. The use of bread, and cheese, and of every other kind of food, is limited by the appetite. A man cannot go on taking an unlimited supply, and mischievous excess cannot arise in the same way as it does when stimulants are taken. If the use of alcohol in moderate doses is natural, how much more on this ground must its excessive use be natural? The craving for the extra quantity which leads to excess is very much stronger than any desire which exists for it at first on the part of the ordinary drinker. If the use is natural in the one case, the same kind of reasoning must also make it apply to the other. And in that case, what is the value of Sir James's argument? He acknowledges "that many persons complying with custom or fashion" may use things even in moderation, "when they are useless or mischievous." He thus cuts his own argument from beneath his feet and himself proves its worthlessness. Sir James forgets that heathen nations are still in the world, and that there are customs among them which have existed for ages. According to Sir James Paget's views

their continuance "gives a strong presumption in favour of the belief that they are beneficially adjusted to natural necessities."

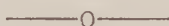
In his reasoning upon the superiority of the Western as compared with the Eastern nations, Sir James has done that which is not usual with him. He has put effect for cause. Civilisation has brought wealth and luxury, and drinking habits have become more common among the people as money has abounded; luxury—especially drunken luxury—led to the downfall of several nations in the Middle Ages, just as it led to the downfall of Belshazzar and of Alexander the Great in more ancient times. As soon as the ruling powers give way to alcoholic excess, and have passed on from the realm of moderate drinking, their power to rule is taken away and given to others. Sir James does not assert that the position of Western nations in the management of the world's affairs is entirely due to alcohol, but he says its influence must not be excluded. Certainly not. The survival of the fittest follows, as a matter of course. But who are the survivors? Not the drinkers of alcohol—not the children of the drinkers. If Sir James can look round among his aged friends he will not find many who were habitually accustomed as young children to take stimulants. I am not writing of those cases in which they have been used as medicine and then left off. I am referring to cases in which children have taken beer or wine daily with their meals. The weakest part of Sir James's paper is that which refers to the hereditary evil accumulated in a succession of many generations. The lap of luxury, which too often means the habitual use of intoxicating liquors, tends to blot out the existence of families. A man has only to study the history of our nobility to see how soon the roll is lost. If the House of Peers was not constantly recruited from the ranks it would soon be defunct. Who have been the ostensible founders of families? Hard-working, temperate men who never touched stimulants in their early life, for they

often had not the means; and we must bear in mind that the children born to drunkards after drunken habits have been contracted are, as a class, known to be short-lived; drinking habits tend to blot families out of existence, and luxurious living, of which the daily use of alcoholic liquors is a part, tends to the same end. To assume, therefore, that every man most probably has had a diseased or intemperate man among his immediate ancestors is to forget the tendency of families to die out, and the productive power of a single pair. To write, therefore, of the million ancestors which a man may have had twenty generations back is as bad as the rest of Sir James's reasoning in favour of moderate drinking. If Sir James will take a hundred drunkards and a hundred teetotalers, each of whom has been so for ten years, and who has been married for the same length of time, and inquire as to the number of children living belonging to each class, he will find an answer to his query.

Lastly, Sir James asserts that because a large quantity of alcohol does harm, it does not follow that the daily

use of a smaller quantity does so likewise; and he instances the use of quinine and arsenic as cases in point. No class of men have ever asserted that alcohol may not be, like quinine and arsenic, occasionally useful. But does Sir James mean to assert that a man in health would be any better for taking quinine daily, or that the Styrian arsenic-eater is the better for the quantity he takes? Unless he does, his argument is again worthless. His reference to muscular power being improved by moderate exercise is not a case in point any more than arsenic-eating. If muscles are not used they waste away and become powerless, but if a man never takes alcohol it cannot be shown that he is individually any worse off than his neighbours who do take it. The actual contrary is affirmed upon good foundation.

In conclusion, I may say that there is not an argument in the whole of Sir James Paget's paper which is based upon a solid foundation, or which can incontestably prove that any benefit flows from the daily use of alcohol by those who are in moderate health.



WHAT SCIENCE SAYS ABOUT MODERATE DRINKING.*

By DR. B. W. RICHARDSON, F.R.S.

LISTEN carefully to the whole argument of Science as she tells her mind fairly and faithfully. She tells you nothing whatsoever about the devil and his devices, but that there is, as claimed, a certain degree of moderation which does not seem to be attended with much evil if it be closely followed. She grants that the moderate of the moderates may have a *rule nisi*. She says to a man of sound health, If you are in first-rate condition of body, if you can throw off freely a cause of oppression and depression, if you are

actively engaged in the open air, if you have nothing to do that requires great exactitude or precision of work, if you are not subjected to any worry of mind or mental strain, if you sleep well, if you are properly clothed and are not exposed to excesses of heat or cold, if your appetite is good and you can get plenty of wholesome food, if you are favoured with all these advantages,—then you may indulge in Dr. Parkes' moderate potation of wine, or beer, or spirit. You are strong enough to bear the infliction, and may, without any great risk, enjoy it. But these favourable conditions are all necessary. If you are limited in respect to exercise,

* From a lecture delivered in Exeter Hall, December 14, 1878.

if you are of sedentary habits, if you are much worn or reduced in mind, body, or estate, then that small amount of alcohol is adding to all your troubles, and you will leave it off if you are wise.

I can imagine with what pleasure some of the world of pleasure may receive such tidings as these. The salt of the earth, and the salt is good, can then enjoy its luxury, just as it can keep a carriage, a livery servant, a horse, or any other unnecessary, but pleasant extravagance. It can take wine in moderation. What more is required? Science, in her most puritanical utterances, gives, so far, her consent.

It is quite true, but take her consent with her provisions equally true and very solemn.

Science says, You who can afford the luxury may use it with the perfect understanding that it is a luxury. Positively, solemnly, it is never a necessity, and if the expression of truth be absolutely rendered you are better and safer without even that moderate indulgence.

What is the danger?

The danger is that attaching to all luxuries: that they being unnecessary are apt, first, to lapse into self-imposed necessities; next, to become tyrants and bad masters, and to set up bad examples by which many, who are not fortunate even among the easy and luxurious, fall.

A learned man, who is, I assume, a man of science, has, however, bidden us ignore this matter of setting examples. It betrays, he thinks, weakness and want of logic. If there are a number of weak creatures, male and female, who by first following moderate example are led to go further than that example, and who fall into perdition, let them fall. That is their look out, and exemplars are faultless. Stint your own enjoyment to save a man from drink! As well, take your warm overcoat off your own back to save a beggar from death by cold. That may be philanthropy, it is not Science.

Stop (says Science) not quite so fast there. I said, ages ago, by one of my wisest servants, also a physician, a

sentence which another immortal man, who was not one of my disciples, happily reiterated: "Be not deceived; God is not mocked. Whatsoever a man soweth, that shall he also reap." I really meant by this, sowing; the mere casting into the susceptible soil the smallest seed that will bring forth a harvest; and if you, by your example, sow perdition, in the purest physical and worldly sense, you and yours will reap perdition. This is in the order of nature, from sowing on to reaping; but (adds Science) there is apart from such results as these, another. When you, luxurious man, in your luxurious resolve, have made a self-imposed necessity, you have created a condition of body which, being unnatural, is calculated to feed itself. So you have sown again, your own body being the susceptible field, and in it you may reap the harvest. You have set up within yourself a desire which nothing but the most zealous exercise of your discriminating and resolute will can meet and keep under subjection. You must, therefore, be ever on your guard. Trespass but a little on your resolution, and your false desire gains power with the most perplexing decision. In this way (continues Science) some of the very strongest and best of my own sons have been tried and overcome. She directs our minds to one of these, whose illustrious name is the boast of this country, and she gives you his own confession, word for word. The case she explains is that of the great man who first discovered by experiments on himself the effect of inhaling laughing gas—Sir Humphrey Davy. No one can accuse him of the want of will, or skill, or knowledge, or goodness. But he made it a habit, gradually acquired, to inhale this intoxicating gas, until at last he declared that he could not look at a gasholder, could not even watch a person breathing, without experiencing an all but irresistible desire to indulge in this form of intoxication. Who are you then (she inquires) that can resist these subtle influences from intoxicating agents? How know you that you are powerful enough to oppose self-inflicted neces-

sity? There was no one who ever lapsed into danger who did not begin little and little to learn, first to desire, and afterwards to feed desire. Wisely, sedately, without the least feeling, I warn you not to create that desire, and then you can never be betrayed.

And to this warning Science once again adds her cautious instruction. It is true, she repeats, that men who are favourably placed may seem to escape injury from the moderate use of strong drink. But still on this point she has a word of information. She proves from hard facts that even those who are moderate live less long lives than those who abstained altogether. She holds up nine years of actuarial calculations of a provident institution, in which there were two classes of insurers—one class which drank moderately, another which abstained altogether. She shows that in the general section, including those who were moderate drinkers, 2,002 deaths were expected to occur, and 1,977 actually did occur, or within twenty-five of the expected number. She shows that in the abstaining section 1,110 deaths were, by the same mode of calculation, expected to occur, but that actually only 801 deaths did occur, or 309 less than the expected number. "Truly," she exclaims again, by the voice of her esteemed interpreter, Dr. Parkes, "the difference in the mortality of these two classes is quite extraordinary."

Thus you learn that Science, when she comes to matter of fact, though she admits a possible excuse for moderate drinking, does not favour it; and when she brings us face to face with some other figures, showing the results of the habit that springs from moderation, she strikes us almost dumb with the severity of her warning. Lesson upon lesson is here piled before us from her hard but faithful voice. Listen to some few of these.

If a man becomes intemperate at twenty years of age, he will only live $15\frac{1}{2}$ years instead of 44 years.

If a man becomes intemperate at thirty years of age, he will only live $13\frac{3}{4}$ years instead of 36 years.

Amongst men who are engaged in the sale of intoxicating liquors the temptation to intemperance tells with such force that 138 of these men die in proportion to a mean of 100 following seventy other occupations.

Out of every 100 persons who were taken into Colney Hatch Asylum in one year, forty were taken from insanity directly or indirectly produced by alcohol.

Out of 900 inquests held per year by the coroner for Central Middlesex—Dr. Hardwicke—on persons who have died violent deaths, deaths requiring an inquest, 450, or one-half, are due directly or indirectly to the effects of drink.

In England, in the year 1876, as many as 1,120 deaths were directly recorded against drink, the persons dying in drink; while the deaths direct and indirect due to the same cause, recently most ably calculated by Dr. Norman Kerr and Dr. Morton, are 14,710 wholly due, and 24,577 partially due, to alcohol: a total of 39,287, and the lowest possible estimate.

We have advanced now a second step in our readings of Science on the subject of strong drinks. In our first step, she denounced all these drinks as necessities; in the second step, she permits them as luxuries, with all due notice of the consequences that attend the indulgence. In this matter she does not directly prohibit, because she does not consider it her province to interfere with the free will of man, but she issues advice which is true to the letter, based on facts which are true to the letter; and that advice is practically prohibitory, if it be honestly followed. . . .

From my readings of Science she gives no countenance to the use of strong drink in any sense, except medically and under scientific direction. She faithfully records its evils; she honestly exposes its dangers; she exposes the gross and vain fallacies by which it is supported; and if, in her absolute fairness, she admits it, under certain arbitrary restrictions, as a luxury, she condemns it as a traitorous evil.

Notes and Extracts.



INTEMPERANCE AND HOSPITAL CASUALTIES.—The Registrar of Mercer's Hospital—in which perhaps the largest number of accident cases occurring in Dublin are treated—has informed the Executive Committee of the Irish Association for the Prevention of Intemperance, that 2,858 accident cases were admitted to the hospital during the past year, but treated as extern patients. This is an average of nearly eight daily. The average of Saturdays was fourteen, and the Sunday average nine cases. Since the closing of the public-houses at seven o'clock, the number of cases on that particular night has diminished.—*British Medical Journal*.

TREATMENT OF CHRONIC ALCOHOLISM.—Dr. D'Ancona, of Italy, concludes that:—(1) Phosphorus is a very useful remedy in the treatment of chronic alcoholism. (2) The medicine is perfectly tolerated in doses which no one has dared to give heretofore—ten centigrammes (nearly $1\frac{1}{2}$ grain) a day for many weeks. (3) The remedy gives to drinkers a feeling of comfort and strength, and furnishes the force necessary to carry on their gigantic functions, which they have been accustomed to get from alcoholic liquors. (4) The medicine seems also to have the properties of a prophylactic and an antidote, for it causes very beneficial changes in the system, even when the use of liquor has not been entirely stopped. He uses phosphorus in the form of phosphide of zinc.—*Medical Press and Circular*.

ALCOHOL AND PHTHISIS.—In some "stray remarks," Professor Cleland publishes, in the *Glasgow Medical Journal*, opinions and speculations formed after a number of years of hospital work. Dr. Cleland has "been in the habit, for a number of years, of relying on alcohol in pneumonia, both croupous and catarrhal, as the most important of all remedies;" and was led to the use of this remedy by

the "known effect of alcoholic drinks in diminishing the carbonic acid excreted," and therefore in giving rest to the inflamed lung. In the treatment of phthisis, however, Dr. Cleland has found alcohol, in moderate doses of about four ounces a day, attended with bad results, the patients going from bad to worse the more rapidly the more alcohol they took. On omitting alcohol altogether from the treatment, however, the cases became more manageable. Hence Dr. Cleland was led to regard phthisis as a disease connected with diminished respiration.—*British Medical Journal*.

AN ECONOMICAL DOCTOR.—The *Bury Free Press* publishes a letter from Mr. John Hales, M.R.C.S., of Holt, who has been in medical practice for thirty-five years. He says:—"On the 18th March, 1877, I was privileged to hear from the pulpit in our parish church our rector announce that he had been much struck with a sermon that he had read, preached by Canon Farrar, and that he proposed that evening to read it to us. I was also so much pleased with the discourse that I have abstained ever since. During that week my thoughts constantly returned to the subject, and I said to myself, 'I wonder what it has cost me weekly for so-called beer and wine, &c.' I made a rough calculation, and resolved in my own mind to put an equivalent every morning into a box. I did so for twelve months, and on the 18th March, 1878, I opened the box, and in it I found £36 10s. I could hardly believe my own eyes. But what about the leaving off the stimulant? All I can say is I never felt better in my life. I work hard, travelling over 200 miles a week, liable to all calls of a large country practice, and yet I want no so-called stimulants. Let anybody who reads this try it for a month, and he will, if true to himself, never repent it."

CONSUMPTION OF ALCOHOL AT THE MANCHESTER ROYAL INFIRMARY.—The sub-committee of the medical board of the Infirmary have presented their report on the consumption of alcohol, and on the best mode of regulating the future supply of this drug. The report stated that the consumption of spirits was, relatively to the number of beds, larger in the Manchester Infirmary, than in any hospital in England, except St. George's, London, and gave a comparative table of the quantity used during the year 1877 at St. George's, the Manchester Infirmary, and the Queen's Hospital, Birmingham, from which it appeared that the consumption of St. George's amounted to 30 ozs. per bed, at the Manchester Infirmary to 12 ozs., and at Birmingham, which was about the lowest of all, only 3 ozs. The quantity of spirits actually consumed in 1877 was 305 gallons, of beer during the same period, 1,784 gallons, and of wine about 70 gallons. The report recommended that, for the future, the order for stimulants should be in operation for only three days, at the expiration of which time a fresh order-card should be issued, or the order lapse. By this means they hope to diminish a consumption which they very justly consider as excessive. A further suggestion, that the alcoholic stimulants ordered should be confined to whisky and beer, did not meet with general support, and therefore was not included in the report adopted.

HOSPITAL EXPENDITURE.—A correspondent of the *British Medical Journal*, who signs himself "A Life Governor of the London Hospital," very properly calls attention to the discrepancies in the management of some of the large hospitals in the metropolis, from which it appears to be clear that either much extravagance must prevail in some, or that in other cases undue and dangerous stint is inflicted upon the unfortunate patients; and it certainly affords much scope for inquiry why the cost of each patient per bed for one year should be only about £27 in one hospital and over £79 in another; and why, if the expenditure be tested by the cost of the diet

of the patients per day, this should be met by an outlay in one instance of 3s. 2½d., and in another the daily diet should cost 7s. 6d. Whether much of this may not be owing to an undue expenditure upon wine, spirits, and beer, may well be questioned, when we learn from the letter in question that, "At the London Hospital, in 1877, £1,393 3s. 9d. was expended in wine, spirits, and beer. The larger portion of this, if not the whole, according to the testimony of Sir William Gull, Dr. Richardson, and other eminent physicians, might have been saved with advantage. It has been proposed to the managers of the London Hospital to devote one ward to give a fair trial to the non-alcoholic treatment of disease on a large scale. This may be well done, as on an average during the last year there were a hundred beds unoccupied. It is desirable to set at rest a medical question of great importance on which opinions are divided. It may not be generally known that there are four small hospitals in London with eighty-six beds in all, where patients are successfully treated without the use of any alcoholic stimulant. Although the outlay in wine, spirits, and beer is very large at the London Hospital, it is still larger in proportion at some other hospitals. 'During the year 1874-75, in ten London hospitals, the sum of £10,655 2s. 11d. was expended in wine, spirits, and malt liquors' (see Burdett on 'Cottage Hospitals,' p. 73). Apart from the question of economy, it is not desirable that the poor man when in hospital should be taught that stimulants add to his strength, and thus be led to think them a necessity when he leaves. This, Mr. Gladstone, at the meeting of the Coffee Tavern Company, lately called a 'delusion of the working man.' This question also, in some cases, influences those who would subscribe to the hospitals. Thus in the case of a West End hospital application was made to a gentleman for a donation, who wrote to the secretary to inquire how much was expended in stimulants, and, finding the amount was very large, he withdrew an intended gift."

THE
MEDICAL TEMPERANCE JOURNAL.

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Original Contributions.

THE DRINK PROBLEM.—AN INDUCTIVE INQUIRY.

If the agitation of thought is the beginning of wisdom, as the proverb says, surely the practical discussion of questions bearing upon our national intemperance, with a view to its abatement, by men of high social position and ability, must be looked upon as the prelude to some improvement in our social habits.

The articles in recent numbers of the *Contemporary Review*, by Sir James Paget and others,—though we emphatically differ from some of their conclusions,—will doubtless stimulate thought on such questions as the use and value of alcoholic beverages.

The points raised are largely medical and physiological, and they are points, moreover, on which medical men differ widely from one another. It is not our purpose to offer any special criticism on the bearing and quality of the evidence brought forward to justify the conclusions arrived at. We leave this for those whose special training better qualifies them to deal with it. Our object is to raise the question out of the mere platform methods and medical aspects, and challenge an issue upon grounds that underlie both.

The intemperance that exists in our midst must arise from one of two causes:—Either (I.) from the general abuse of a good thing; or (II.) from the general use of a bad thing. Either of these suppositions—that is to say, if both propositions are equally supposable, which we will by-and-by show they are not—would account for the state of matters existing in our midst. By a “bad” thing we mean a thing relatively, not absolutely, bad—bad in relation to the living organism in a state of health; in

other words, dietetically and physiologically bad. That there is such a distinction as here indicated no one will doubt. In the vegetable kingdom, which is the ultimate storehouse of all nutriment, there is a class of substances known as *foods*, and their dietetic value, either as "heat-producers" or "flesh-forming" elements, is accurately ascertained and registered in books treating on the subject. On the other hand, there is a class of substances known as *poisons*—that is substances which have a tendency, when taken into the living system, to produce functional, or structural, derangement, and when taken in sufficient quantity to cause death. This class of vegetable substances is also well known, and is minutely described in books treating on the subject. The various poisons are grouped and classified in accordance with the special physiological influence and action of each.

The difference between these two classes of substances—that is, foods and poisons—does not lie in the quantity taken, but in the quality or property respectively inherent in each. We emphasise this statement because of its importance; and because the popular conception on this point is anything but clear and definite. Poisons and foods are terms that indicate certain special properties or qualities inherent in the constitution of each of their respective substances. They are not mutually convertible. Foods do not become poisons when taken in excess, and poisons do not become foods, however divided, subdivided, or minimised they may be; and the reason of this is obvious, viz., that qualities are not altered by division. This principle holds true of foods and poisons alike, because they both depend for their special and peculiar character on certain qualities and properties inherent in them. No doubt the injurious effects of poisons on the human organism are lessened, just as the nutritive value of food is, in proportion as the poison is diluted or weakened, but that is all. Its character is not altered in the least. It may not produce any perceptible or appreciable effect on the human system; that is to say, such effects may not be recognised by consciousness at the time. But this is saying very little, indeed, on the subject, and nothing at all in the way of extenuation; for it is well known that most of the causes and factors in the production of disease operate—at least in the first stages—insensibly and imperceptibly. The causes of things proverbially lie deep; and not unfrequently minute and insignificant actions, in themselves considered, when often repeated, produce, in the long run, very important and serious consequences.

We have dwelt at considerable length on this, almost preliminary part of our subject, in order to make good three points, before pro-

ceeding to take up other matters. (I.) To affirm and emphasise a distinction which lies at the basis of the Temperance movement, and which is liable to be overlooked in our temperance discussions; we mean, the distinction between things good and things bad, dietetically and physiologically considered. (II.) To show that providence generally in nature has drawn a definite and determined line, marking off things suited and adapted for food, in other words, things to be used in moderation, in harmony with the laws of health, and also things to be abstained from as evils, the use of which being inimical to physical well-being; and (III.) to work out from these premises a logical definition of true temperance which would be radical, incisive, and exhaustive. Temperance being defined as the moderate use of the *good* things; that is, the things suited and adapted for food. Not the use of everything as food, not even the moderate use of everything, but the moderate use of the good things only. This definition, we submit, is exhaustive and admits of no modification. God has given us certain things for food, and many things for other purposes. Temperance in diet is the moderate use of those things given for food, and, of course, implies abstinence from those things not given for such purposes.

We are not here enunciating any new truth or any novelty in doctrine. We are simply expressing what every one believes, and what every one, more or less, acts upon. The advocates of abstinence, and the advocates of the use of alcoholic liquors, do not differ at all on this point. They both practically draw a line of distinction between things dietetically good and things dietetically bad; strictly speaking, they are both "abstainers" from certain things. The difference lies here—the "temperance party," as they are called, *exclude* alcohol in all its forms, from the list of suitable and proper things for food; the other party *include* it, and the controversy between the two parties is—Which is right?

We now come back to the alternative propositions laid down at starting, viz., that our national intemperance must arise from one of two causes—either from the general abuse of a good thing, or from the general use of a bad. If it is alleged that it arises from the general abuse of a good thing, one or two troublesome or pertinent questions start up and demand explanation and solution. How does it happen that a good thing,—one of the good things, too, provided, as is alleged, by a merciful Providence, for the use of man,—should be so universally, so systematically, so persistently, and so uniformly abused? In all countries, among all classes and conditions of society, in all places, among all peoples, and in every clime, wherever alcoholic drinks have been in anything like general use, either as an

article of diet, or as a medium of hospitality, intemperance in more or less degree, and in one form or another, has been the unvarying concomitant. A phenomenon like this demands explanation, and we submit that those who hold this proposition are bound to offer some rational solution of it. It is clearly an exception to the way in which all the other indubitably good things are used by man. We cannot point to any article in common use, ranked as a food, which has been so systematically and uniformly abused.

If we refer to water—Nature's own beverage *par excellence*—we find that the first draught to a thirsty man is delicious, the second is only agreeable, the third barely so, while the fourth is insipid and distasteful. We never hear of the systematic abuse of water by individuals or communities. In the case of this element, so important to the human organism, Nature has benevolently arranged that when the natural want is supplied, the temptation to excess is removed by the provision that each successive draught is less and less palatable. Every one knows that it is quite different in the case of strong drink. Nature here supplies no such impediment to excess,—interposes no such obstacle to its abuse, as in the case of water,—gives even no intimation when the boundary line between moderation and excess is about to be crossed. On the contrary, having placed the government and regulation of the appetites, as well as the passions, under the control of the reason, the first effect of the imbibition of alcoholic drinks, through their exhilarating influence on the brain, is to place this regulating power in extreme jeopardy, and thus to facilitate, rather than obstruct, prolonged and excessive indulgence.

On the supposition that Nature is benevolent, does it not seem strange that in the case of water—so innocent a beverage, where excess would be comparatively harmless, an expedient has been introduced into the constitution of things by which that excess is avoided; and yet in the case of alcoholic drinks—on the supposition that they are foods, or divinely-sanctioned luxuries, where the consequences from excess are simply ruinous—no such provision, so far as Nature is concerned, exists, designed or adapted to arrest or even circumscribe excessive and prolonged drinking, but rather, as we have seen, to facilitate and promote it?

We have spoken of water. Take also the case of food. An excess in any particular dish, or any particular kind of food, is succeeded by a feeling of loathing or aversion which not unfrequently requires a considerable time to overcome. Not so, notably, in the case of indulgence in alcoholic drinks. Farther, in the case of food, it is admitted that among the well-to-do and wealthier classes of this country, a great deal of stimulating and

pampering of the appetite is carried on by the cunning ingenuity and artificialties of the modern cook; and much more food is consumed than the simple wants of nature demand. Yet the celebrated Dr. Benjamin W. Richardson, in his book on the Diseases of Modern Life, says:—"Disease from mere gluttony, whatever the extent of it may have been in the luxurious past civilisations, other than our own, is certainly not a marked vice among the English people. My experience fails to supply me with a single instance in which it could be said that disease originated from the habitual excess of any particular food taken for the sake of gratifying the sense of taste."

This appears an extraordinary and noteworthy statement, especially when taken in connection with the same author's remarks on the influence of alcohol in the production of disease. (See chapter on "Narcotics," in the same book.) Not only is alcohol charged with being the prime factor in the production of many disorders and maladies, such as diseases of the liver, heart, brain, stomach, &c., but it is also charged with possessing the evil power of intensifying and aggravating all these when produced by other causes.

Sir Henry Thompson, also, in his celebrated letter to the Archbishop of Canterbury, more than corroborates the statement of Dr. Richardson. He says:—"I have no hesitation in attributing a very large proportion of some of the most painful and dangerous maladies which come under my notice, as well as those which every medical man has to treat, to the *ordinary and daily* use of fermented liquors taken in the quantity"—mark the words—"which is conventionally *deemed moderate*."

To sum up, then, on this point; the ordinary and moderate use of food—that is food about which there is no dispute—is never productive of evil consequences, but the reverse. Even occasional excesses, which Dr. Richardson says are indulged in by the higher and wealthier classes of this country, though these may now and then occasion temporary indisposition, seem to leave no permanent bad effects,—at least no such case has ever come within his experience as a medical man.

This is just what we would have reasonably expected *a priori* from the nature of the case. Food being an absolute necessity for the sustenance of man's physical organism, eat he must or he must die; and his appetites being placed under the control of his reason, which is liable to err even when he wishes to do right, it will at once be seen that there is a beautiful propriety in constituting the human organism with a certain measure of elasticity as to its receptivity of foods, and thus by such a provision preventing, what would otherwise be inevitable,—a great amount of disease and human suffering.

Now, in regard to alcoholic liquors the very reverse of this is the case. Not to speak of their excessive use, or of over-indulgence in them,—which, all admit, brings a whole legion of diseases in its train, and fills our infirmaries with wasted forms and our hospitals with incurable constitutions,—but even what is called the “*moderate* use is productive of some of the most painful and dangerous maladies,” according to Sir Henry Thompson, “which the physician is called upon to treat.”

Sir Henry Thompson’s remarks have been actually verified by ocular demonstration in the case of Dr. Beaumont’s experiments on the living stomach of Alexis St. Martin; but as the readers of this journal are probably familiar with the details of these we will not here further refer to them.

If our intemperance result from the abuse of a good thing, and that good thing alcohol, these facts—and they are only a tithe of what could be advanced—are perfectly inexplicable. They refuse to be explained on such an hypothesis; the facts will not square with the theory.

Again, if our intemperance as a nation springs from the abuse of a good thing, would we not be entitled to expect that the intemperate class would be found chiefly among the young, the thoughtless and the frivolous,—among those generally given over to recklessness and folly? Certainly we would. But the actual facts do not agree with what we are led to expect. The roll of drink victims, as every one knows, is made up of all classes,—the thoughtless and the thoughtful, the lively and sedate, the educated quite as much as the uneducated, religious men and women, ministers of religion, elders and Sabbath-school teachers; yes, men and women who, at one period of their history, before the drink-appetite had acquired such a mastery over them, would have thrown back with scorn even a mooted fear of such a result, and would have replied in the spirit of one of old, “Is thy servant a dog that he should do these things?”

Were the abuses here referred to only mere isolated instances, only now and then occurring, we might perhaps set them down to what we have to refer many other unaccountable acts of folly,—to the caprice of the human will. But this answer does not meet the case here. It is the abuse of an alleged dietetic good, like milk, bread, rice, animal food, and a host of other things. We have not only the persistent abuse, both by men and women, but by men and women who really desire to act differently,—who try to do so, and who yet seem to be carried into excesses against their will and better judgment. These facts demand explanation from those who accept the hypothesis under consideration. It is not enough to say that the thing is done. We want to know the reason why it is? We can quite easily explain and account for the

intemperance in itself, by saying that a good thing is abused; but our question goes deeper. We want to know *why* it is. Why in all countries, wherever there has been anything like a general use, this one good thing out of so many other good things, has been so flagrantly and so persistently abused?

General Havelock, in his narrative of the Indian Mutiny, says, speaking of the Battle of Chuznee, "The medical officers of the army distinctly attributed to their previous abstinence from strong drink the rapid recovery of the wounded at Chuznee." Atkinson, also, in his work on "Afghanistan," says, "All the sword cuts, which were very numerous, and many of them very deep, united in the most satisfactory manner, which we decidedly attributed to the men having been without rum for the previous six weeks."

Now, if we bear in mind that in the army, during active service, spirits are given out as rations, at stated times, and in moderate quantities, so as not to incapacitate the men from duty, and we cannot well conceive of circumstances—for instance, the open air and active physical out-door exercises—where drink could be taken with less risk of doing injury; and yet the inference is irresistible that the soldiers were better without it; and if better without it they must have been *worse* with it. On the supposition that alcohol is a good creature of God, these facts baffle all conception and refuse all explanation.

But yet farther. Why is the trade in drink not free? If the drink itself is a good thing—like bread, fruits, or animal food—it ought to be free. There is no reason why it should not on this supposition; and yet the fact is, that none but the wildest theorist, and those reckless of all consequences, would ever dream of advocating free and unlimited traffic in intoxicating liquors. With an inconsistency, which seems to point to some unthought-out conviction in the national conscience, that there must be something evil in the thing traded in, they all go in for restriction and limitation, both as to time, premises, &c. Now, what does all this imply? Clearly this—that the nation recognises that the article traded in is a dangerous article, and, if a dangerous article, how can it be a dietetic good? The supposition is simply ridiculous. In theory it is held to be a friend, and yet by common consent it is practically treated as an enemy. Why, we ask again, should a trade dealing in a good article—not simply a good article, but, according to some, a God-given article—be crippled, circumscribed, and restricted by either municipal or police regulations, such as the liquor trade is? Why not allow it the freedom of other legitimate trades? The only explanation—and the only one that can be thought of—is, that it is a dangerous trade. But we ask again, Wherein lies the danger?

It is not that orders are given, executed, and paid for, as in other lawful occupations, that it is so. It is, and must be, solely because the article traded in is bad—and dangerous, just because it is so. Its dangerousness lies in this: that it possesses the power—like all narcotic stimulants—of *creating its own excesses*; that is to say, when it is used. No other trade is treated in this exceptional way—none is entitled to be so treated. Bakers, butchers, provision and jewellers' shops, &c., might be increased *ad infinitum*, and no objection would be taken by the community to them, and no increase of crime and immorality dreaded, because the articles traded in, being themselves good, offer to society no temptation to excess. In treating the drink trade in this exceptional way, society is right in its instincts, though wrong in its creed and inconsistent in its practice.

We now sum up the first part of our inquiry. For the sake of argument, we assume the first of the two alternative suppositions, as a working hypothesis, and our inquiries up to this point have been in the direction how far the facts and circumstances will agree with the theory, and how far the theory will explain and account for the facts.

A theory of anything is just an explanation or philosophy of the facts belonging to it. The theory should explain and account for the facts, and the facts, in turn, should illustrate the theory. Both should correlate, and both should be harmonious. If the facts refuse to be explained by the theory, the theory must be incorrect, and some other mode of explanation must be sought for—some other principle adopted. This rule has received a notable illustration in the history of astronomical science.

Now, in the case under consideration, we have found that the theory of the continuous abuse of a *good* thing does not explain and account for the facts and phenomena of drunkenness; and it is clear that if another supposition will do so, we must fall back upon it. We started, our readers will remember, with stating that our intemperance must arise from one of two causes, either the general abuse of a good thing, or the general use of a bad thing, physiologically and dietetically considered. The first has failed to account for the facts of the case, and we are justified in falling back upon the second, and asserting that our national intemperance arises from the general use, in our social and domestic relations, of an unsuitable, injurious and dangerous article. That such a supposition is possible, no one with the history of the world before him will for a moment doubt. If society has been in the habit of using for dietetic and social purposes an article which has no claim to rank as a food, or as an innocent beverage, an article which should have been confined to the laboratory of the chemist,—if we suppose that society, not

discriminating between what was good and what was not in relation to physical wants, has been in the habit of using a drug, thinking it was a food,—if this supposition is granted we can explain all the circumstances and phenomena of drunkenness. We can explain and account for, with the most perfect naturalness, the ever and anon occurring cases of intemperance among otherwise good people, cases that take society by surprise, and we have no doubt are a surprise to the individuals themselves. Many of this class are more victims to be pitied, than criminals to be blamed. Following the traditional usages of society, they begin to use intoxicating beverages, mistakingly thinking them good to be used in moderation, and thinking, too, that the power of regulating and checking the forming appetite lies with themselves. They forget, or perhaps do not know, that the appetite grows on what it feeds; that it is not the *product* of excess, but the *prompter* to it, the order being: drinking—appetite—excess. This appetite, or “drink-crave,” as it is called, both in its origin and development, is entirely outside the jurisdiction of the will and reason. We have perfect power to take or not to take any particular substance; but if we take it, we have no direct power, by any effort of will, to prevent or arrest its results. We have power over causes but not over effects. If we will to take, say, a quantity of opium, no mere effort of will, no resolution, no prayers, will prevent the subsequent depression, simply because, having set in motion causes, we cannot arrest results. On this very point thousands have been, and thousands are being, deluded and ruined. On this hidden shoal many of the most amiable, noble and generous natures have been fatally stranded; and many more, we fear, will slide down the slippery incline to ruin and death.

We can explain also why all the efforts that have been put forth in the way of arresting and circumscribing this evil have utterly failed, but the one that removes the cause. Some hundreds of legislative measures, we believe, have been enacted by the British Parliament, all in the way of limiting and regulating the sale of this drug, hoping thereby to lessen the crime and immorality springing from it. All these efforts have not only failed, but the tide of intemperance is higher just now than at any period of British history. All mere efforts at regulating this evil have failed, and must fail, because the real source of it has been ignored. Our diagnosis of the disease is wrong, and, consequently, our remedial appliances have fallen short of success.

But, further, on the supposition that our national intemperance is the product of the general use of a bad article, the whole phenomena of drinking and drunkenness are just what—judging from the analogy of things—we are entitled to expect. The

general use of a "crave-producing" drug, it is alleged, should lead to a general excess in the use of it, which is quite contrary to fact; the intemperate class, though fearfully large, in itself considered, and widely demoralising in its influence, being, nevertheless, relatively, a mere fraction in the community. We reply—Processes demand time, and injurious influences are modified by temperament and other conditions. Moreover, hereditary tendencies and predispositions account for something, and explain a good deal why one man's appetite for drink is developed, say, in a few years, and why, in the case of others, it may take a much longer time; and also why, in the case of—let us hope—the great majority, death comes to them before it is developed. This does not prove, however, that alcohol does not possess the tendency, when used, of producing an appetite which, in all cases, is difficult to restrain and keep within limits.

It has been often said that the outbreak of crime in any community is not the exclusive product of any individual. If a low moral feeling prevail in any locality it generally manifests itself in the weakest part. The individuals constituting the criminal class are not only the exponents of the moral barometer of the locality in which they reside, but they are themselves its living product. Society is in many senses a unity, and individual responsibility has a wider area and circumference than is generally supposed. The same law holds good in regard to even sanitary conditions. A neighbourhood may be unhealthy—its atmosphere may be charged with fever-germs or poisonous gases—arising from some supposable cause. But the people, though all living in the unhealthy region, and all breathing the impure air, do not all die. Why is this? Is impure air not unhealthy? Certainly it is; but the unhealthiness of the neighbourhood manifests itself in the weaker and more susceptible of its inhabitants. These succumb to the low and unhealthy conditions in which they are placed. The general mortality is heightened, and perhaps the general susceptibility to the contagion is increased, but the larger bulk of the inhabitants live. The tone of their health, whether conscious or unconscious of it, must be lower, but that is all. One thing is clear, that those who die do so in consequence of the bad surrounding conditions, the factor being, in such a case, the fever-germs or poisonous gases inhaled, and those who survive do not live because the neighbourhood is unhealthy, but in spite of it. So in the case of the general use of alcohol—the positive factor, wherever the drink-crave exists, is the alcohol itself. This is clear and certain; and it is also clear that those who live to old age, and use this narcotic without experiencing that artificial craving, which is a constant and present source of temptation to many, must owe it to something else than the

drink. The virtue of many is indebted more to weak temptation than to strong resistance ; and the sobriety of a large class may—without any breach of charity—be attributed to the absence of those enviring entanglements in life which have dragged down to ruin some of the best and noblest of our country.

Edinburgh.

JAMES WATSON.



THE CONTEMPORARY REVIEW ON "THE ALCOHOL QUESTION."—II.

DRS. RISDON BENNETT, RADCLIFFE AND KIDD, MR. BRUDENELL CARTER, AND DR. GARROD.

WE resume our criticism of the writers on the Alcohol Question in the *Contemporary Review*, since five more papers on the subject appeared simultaneously with our last number. These need not detain us long, as there is nothing in them which has not been frequently considered in these pages. The names of the writers are imposing, but, beyond mere statement of opinions, which naturally have considerable weight with many, there is no new conclusion of permanent value.

Dr. Risdon Bennett, in a brief paper on "*Temperance versus Abstinence*," is an admirable illustration of the modern medical oracle. Abstainers and moderationists may appeal to him with equal confidence, and neither will be sent empty away. If he ventures on a statement which savours of total abstinence, he almost directly qualifies, or overturns it, by a remark on the other side, and leaves the bewildered suppliant finally to decide himself as to what is the course of duty, and his true good. He admits that it is impossible to define moderation ; he classes men as fools or physicians, according as they do not, or do, know how much alcohol is good for them. If such an eminent physician cannot define moderation, can we be surprised that there are "so many foolish and ignorant people who cannot tell whether they are better or worse in health for the amount of alcohol that they daily take" ? Dr. Bennett rebuts the charge of responsibility for this from the medical profession, because they have denounced the abuse of alcohol and the evils of intemperance, and "have carried out all the laborious investigations into the physiological action of alcohol with the express purpose of determining its action and uses in health and disease." Very good ; but what is their conclusion ? Have they discovered a golden measure of

safety, incapable of leading to excess? Dr. Bennett himself says, "No." Then, of what advantage, in this respect, are all the "laborious investigations"? Will they cure or prevent drunkenness? The great masses of the people do not understand the laborious investigations, and do not care a fig for them. All they want (if anything) is a decent excuse for drinking in moderation. And Dr. Bennett supplies it *gratis*. Far more reasonable would it be for the said laborious investigators to say, "Ye people, perishing through lack of knowledge, leave off all intoxicating drinks till we have discovered, by our laborious investigations, an infallible recipe for drinking without drunkenness and without harm." Till that is discovered men will always exist, deceiving themselves, and being deceived, fancying themselves wise physicians, and having to confess in the end that they are only fools.

We are glad of the admissions of Dr. Bennett and the other writers, because they will have weight with certain people, who immediately distrust a doctor who has taken up the logical position of a total abstainer, and put most faith in those who cannot quite make up their minds. Thus Dr. Bennett says, "There are, doubtless, those who, in rude health and in the full vigour of life, are in blissful ignorance of the meaning of either dyspepsia or anorexia, and need neither the stimulating nor soothing influences of alcohol. To all such I would say,—Abstain, run not the risk of dispelling your ignorance and losing your bliss." This is capital advice, and may be supplemented thus,—“Do not imagine that the first departure from rude health is because you are a total abstainer, although hosts of friends and physicians (save the mark!) will tell you so; and do not believe the said physicians when they say that you cannot get, or keep, well without taking alcohol in some shape or other. If you cannot get well without, it is either your fault (bad habits), or theirs (want of skill), or your case is incurable.”

Again, Dr. Bennett says,—“There are few people who are aided in the actual performance of brain-work by alcohol. . . . The steady continued exercise of the mental powers . . . is more often impeded than aided at the time by alcohol.” “I agree with those who have maintained that children and young persons do not, as a rule, need alcohol in any form, and believe it to be a grievous error to suppose that every sick or weakly child requires alcohol as a constituent of his diet.”

Dr. Bennett's dispute with St. Paul we must leave them to settle hereafter. For ourselves we shall continue to believe in St. Paul, especially as, instead of finding our life an "intolerable burden" by following his inspired advice, we rejoice in the liberty with which we have been made free, and do not intend to go back again to the yoke of bondage, or burden ourselves with the

slightest responsibility by the gratuitous recommendation of an artificial brain-poison, the unquestioned cause of countless evils, as a "good creature of God."

Dr. Radcliffe's "Casual conversation on the subject" is an evidence of his great condescension, since he enters the lists to settle the question and silence unreasonable abstainers as completely as his very patient clergyman. We are sorry for that man; he evidently was not able to give a reason for the faith that was in him, and the big doctor overawed him and had it all his own way. Dr. Radcliffe's conversation was casuistical as well as casual. He plays with the word "tonic," and attributes to alcohol properties which were no doubt attributed to it several years ago, when he "had to lecture on *Materia Medica* at the Westminster Hospital," but most of which men of science have ceased so to attribute for some time past. He considers it "of great service . . . in keeping up the animal heat by supplying easily-kindled *fuel* to the respiratory fire, in producing nerve-power by furnishing easily-assimilable *food* to nerve-tissue, and in *lessening the necessity for ordinary food by diminishing the waste of the system*." Suppose alcohol is a valuable fuel, is quantity no object? Two ounces of alcohol are the very outside limits of moderation according to Anstie, and most people should take much less; is the *fuel-value* of this amount so great as to deserve such encomiums from such a man? Is it worth more than fat or sugar? We trow not, Liebig himself being witness. Dr. Radcliffe's second use for alcohol, "food for nerves," is purely imaginary, and contrary to fact, unless some alcohol be turned into fat and act as an *insulating material* for the nerve fibres. Alcohol is never transformed into protoplasm or protagon, for it does not contain nitrogen. The third use for alcohol, namely, to cheat the system into doing hard work under the idea that it has been sufficiently fed, is worthy of Bedlam. It must be classed with the idea of perpetual motion and other impossibilities of that kind. Work *cannot be done* without oxidation, that is, waste, and the waste is exactly proportional to the work done, and always has been, from the beginning of creation, long before "economisers of force" were discovered, or man himself appeared upon the scene. To supply that waste an equivalent quantity of food must be taken; the body can do with no less and needs no more. By the sensations due to its nerves it cries out for food; these cries may be stifled by a narcotic, but the *need* is not prevented thereby. As a matter of fact, abstainers, on the average, do not take more food than moderate drinkers, except, sometimes, when first abstaining, at which time, the incubus of alcohol being removed, the sensibility of the nerves and purification of the body are so quickened that the appetite improves greatly for a limited time.

As Dr. Radcliffe says, this excess, if continued, sooner or later leads to a break down; but we unhesitatingly assert that, *after the cure of the morbid condition* by proper medical treatment, the best and only right course to pursue is to regulate the diet more correctly in future, and not to dose the system daily with alcohol. Here is a field for the exercise of true Temperance indeed, and the use of alcohol for such an avowed end is certainly an evasion of duty.

The idea that the poor, who, after spending all their money cannot get enough to eat, should spend less on food and some on beer or wine, is worthy of the French queen who, when told that the people were starving for want of bread, recommended them to eat buns! The penny or twopence which the glass of malt liquor would cost would purchase enough oatmeal for a substantial meal, or half a pound of bread and an ounce of cheese. Dr. Radcliffe is indeed modest to say "If I am right" there is a wise use of these drinks, and then to say that "If I am unable to satisfy myself by argument upon this point I should still hold to it; for I find it impossible to believe—as I must do if I believe that the only effect of alcoholic drinks upon man is mischievous—that the process of alcoholic fermentation in the economy of nature was a mistake on the part of the Author of nature"! As though the Author of nature intended us to eat or drink everything which He has made! What if the wise use should be "for external application only"? or for pig-wash? or for mechanical and chemical purposes? If they are so beneficial to man, why ought we to deprive our horses, cows, dogs, pigs, &c., of the benefit?

Dr. Radcliffe says drunkenness is the exception and not the rule. So do we. Very few people are *always* drunk, and there was a time when even they were sober. Must we wait till *everybody is always drunk* before we begin to warn against the use of intoxicating liquors? especially against the use of them to promote that feeling of comfort which has been a snare to so many, and which is so often caused by the alcohol which relieves it at the time. Dr. Radcliffe is, however, charmingly inconsistent; for, in his closing words he shrinks from recommending the use of spirits, which are as much legitimate beverage as beer or wine, but, as we admit also, more dangerous, and a greater temptation. If we differ, then, it must clearly be on a point of degree and not of principle, and we hope, therefore, that the Doctor will revise his paper in the light of the last paragraph.

Dr. Kidd concedes all that, as total abstainers, we need to ask, when he says:—

"To a person of perfectly sound constitution, in ordinary good health, undoubtedly the rule of life should be, not to take alcoholic fluids habitually—to reserve their use, like medicine, for actual states of disease."

If alcohol were never used but as a drug, there would be no more harm result than in the case of opium. On the other hand, when opium is self-prescribed, especially for the relief of some uneasy or painful sensations, every medical man knows cases wherein the same morbid craving has been created, or hallucination of its constant benefit and necessity produced.

But Dr. Kidd very absurdly goes on to say that there are few persons who can be called perfectly healthy, owing to the wear and tear of civilisation, and of course concludes that the majority require to use alcohol habitually. There are several assumptions which require proof before that conclusion can be accepted. (1.) That the failure of health is due to unavoidable causes. If not, a medical man has no right to encourage any to continue these injurious habits. (2.) That alcohol can counteract the effect of injurious habits. We deny it altogether. It may mask their primary influence, and render the system unconscious of their action; but, if no alteration takes place, the result is physiological bankruptcy, shortened life, or sudden collapse. (3.) That alcohol does not lose its power for apparent good by its habitual use. This, again, is contrary to fact. By frequent repetition tolerance is established, and the alcohol loses all its primary influence in the usual dose. The man is an alcoholised man, but just as liable to other injurious influences as before. He is just as prone to disease, and to some diseases even more prone. (4.) That the alleged sensations of men, anxious to take alcohol, are to be accepted without doubt or hesitation. (5.) That no other means will ever avail to improve the vigour and resisting-power of the body.

Mr. Brudenell Carter poses as Ajax defying the lightning, and is very sarcastic, and quite as irritated as he would be if the exposure of his fallacies by many writers on a previous occasion had been complete, instead of being (according to his account) empty and vain. We need not, therefore, renew the personal discussion. He objects to science, if science does not support the conclusion to which he had previously arrived. He appeals to facts. So do we. And we challenge him, or any one else, to produce facts from unquestionable sources (for example, from prisons, workhouses, armies, nations, &c.) which prove that, *other things being equal*, the general advantage is on the side of alcohol.

Dr. Garrod, the twelfth of these modern apostles, evidently knows his audience, and very truly (speaking for most drinkers of alcohol) says:—

"What the public really want to learn from the medical profession on this subject seems to me to be this: How far can the moderate taking of alcoholic drinks be indulged in without producing any evil effects on the system;

reference being had to the artificial circumstances under which most of us live, and to the strain on the nervous system resulting from the wear and tear of modern life ? ”

We, however, contend that the true question for every patriot and philanthropist to ask is this,—In view of the havoc caused by alcohol, in view of the wide-spread misery, and the hindrance to every good and noble enterprise for the benefit of man which is due to the use of alcohol as a beverage in all its forms, is it *a necessary of life*, is it essential for my daily work ? We contend that no artificial invention of man, in the latter centuries of his existence on this planet, is necessary for his life, or the development of the highest powers of his being, in order that he may reach the loftiest standard severally possible to each.

Dr. Garrod also falls foul of the Mohammedans, who are a sad stumbling-block to these gentlemen ; and having to admit that they “thrive ” without alcohol, sweepingly charges them all with the common use of opium and Indian hemp, “and the exchange from alcohol to these narcotics can scarcely be looked upon as a gain.” Here the Professor has overreached himself : for he admits that the said nations thrive notwithstanding two disadvantages (1) the non-use of alcohol ; (2) the use of other narcotics. Further, he admits that these narcotics are more injurious than alcohol. *A fortiori*, therefore, if the use of these were abandoned also, how greatly would they thrive ! Not using alcohol they thrive, although they handicap themselves with the use of other narcotics ! But this habit is not so common as he would have us believe, and their total abstinence is far more beneficial than he cares to admit. Alcohol-drinking Turks are worse than water-drinking Turks, just the same as average Englishmen of corresponding habits.

Dr. Garrod admits, however, that some can leave off “their accustomed alcohol without any unpleasant result, and some with marked advantage ” ; but he also tries to show that the illnesses or discomforts which some experience on leaving it off are due to want of nutrition, and prove that it is necessary to them. We allow that alcohol so alters a man that on leaving it off a new level, or balance of nutrition, as it were, has to be attained in some way. This process is in some people attended with unpleasant symptoms, such as boils, neuralgia, &c., although these are often due to *other causes*. But we protest (1) that it is absurd to attribute illnesses, which do not occur for months or even years after commencing to abstain, entirely to the lack of alcohol ; the system having in the meantime worked steadily and well without it. (2) That these symptoms—which Dr. Garrod admits to be occasioned sometimes by abstinence from other habitually-used articles, such as curries and spices, are indications of the

injury which has been insidiously done to the body; and that they show that neither curries nor alcohol should be taken, and, of course, that they should not be resumed.

Finally, Dr. Garrod seems to feel bound to follow the example of his predecessors and give us a little homily on the Biblical aspect of the question. He is in blissful ignorance of the use of unfermented and boiled wine in the East: he knows nothing of the value of vineyards in producing fresh grapes and dried raisins for food, the latter of which, one would suppose, are unheard of luxuries. No; according to these gentlemen vineyards are only blessings if they produce intoxicating wine! and our Saviour set before a company of peasants abundance of that wine which the Scriptures He revered taught Him not to "look upon, for at the last it biteth like a serpent and stingeth like an adder"! We suppose that it must require the possession of unalcoholic eyesight to perceive the moral incongruity, and therefore the impossibility, of the actions which are so freely attributed to the Redeemer (not the Curser) of the world.

We venture to predict that the next time we are favoured with essays on this subject from a galaxy of medical men of similar eminence, we shall find that many of the fallacies which have been exposed in these pages and elsewhere will be practically dead, and that the medical trumpet will give forth a more certain sound in favour of total abstinence.



DR. TIMMS ON ALCOHOL.*

As a contribution to the rapidly-accumulating mass of facts, from which will one day be found the true interpretation of the exact place in science occupied by alcohol, this interesting and readable pamphlet is of some value. From a long and varied experience the author presents his readers with three cases typical of different forms of alcohol poisoning. The first is a man who died while drinking a quart of whisky for a wager. This is a death from nervous shock, and illustrates the immediate fatal effects of alcohol. The second is a boy who died at 15 from gradual failure of the heart's action resulting from sudden dilatation of the heart, five years previously, after swallowing a large dose of spirits. In this case an immoderate, but not an immediately fatal, dose narcotised the nerves presiding over the

* *Alcohol: in some Clinical Aspects; A Remedy; A Poison.* By Goodwin Timms, M.D., M.R.C.P.L. London: Baillière, Tindall, & Cox.

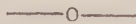
circulatory organs, and thus slowly, but surely, destroyed life. The third case is a drayman, aged 35, straight, tall, and healthy-looking, who met with an accident ending in compound fracture of the tibia (large bone of the leg); he died within a month. This is an illustration of a very common class of cases where, though a drunkard is continually marching over his own grave, he appears well till, suddenly—when there is a call for nutrition and repair of broken bone and bruised tissue—the unreality of his life is revealed. His seeming health is but an illusion; he has no power of self-repair.

Dr. Timms puts forward all he possibly can in defence of moderate drinking, but the admissions he makes are amply sufficient to justify our movement. He concedes that habit very soon masks the poisonous effects of alcohol on the brain, the stomach, and the circulation. The headache, nausea, vertigo, and shivering soon disappear, and the moderate drinker persuades himself that, as he does not increase the daily dose, nor feel any discomfort, the quantity he drinks cannot hurt him. “He would not so conclude if he took into consideration the insidious toleration of alcohol which use engenders, and which masks its undermining progress; for although custom destroys the consciousness of the mischief, it has not the slightest lessening effect upon the poisonous influence which alcohol has upon the tissues.”

Dr. Timms does not hold pure alcohol to be a true food, and confesses that it causes more deaths than all the other so-called poisons. He looks upon alcohol as both a stimulant and a narcotic, argues for its usefulness in certain diseased conditions, and concludes with the following outspoken words:—“To accustom the young, even up to full youth, to a relish for even the mildest description of alcoholic drink, as malt liquor or wine, is one of the greatest cruelties and crimes of modern civilisation.”



Miscellaneous Communications.



ON ALCOHOL FOR THE UNHEALTHY.

By B. W. RICHARDSON, M.D., F.R.S.*

IN this address, which is, I understand, being delivered before mem-

* Read at a Conference in Sheffield, March 18, 1879.

bers of my own profession and other men of science, I shall omit elementary details of a physiological character, and shall touch on subjects of a directly practical kind bearing on the

use of alcoholic drinks in conditions of body which are not healthy. By one of those clear and unmistakable revolutions of thought which come out of much contention and laborious research, it is now all but universally admitted by men of science that to those who are in the enjoyment of good health, stimulating drinks are of no service whatever; that such drinks do not help to maintain health, and that the most which can be said in favour of them is that they supply what is called a luxury. There remains, however, as yet an argument, which is to the effect that alcohol is an agent admitting of being applied with signal good effect to the service of persons who in various ways are out of health. My object now is to consider with all candour that position. It were a singular anomaly in nature if what is not necessary as a general principle or rule of life for maintaining the healthy in health is necessary for bringing the unhealthy back to health, and for keeping them in health. But such is assumed to be the case by many persons whose opinions are worthy of consideration, and thereby those who abstain should be ready to consider the position thus asserted by those who do not abstain.

For myself, I have not courted the opportunity of discussing this question in public. It has always seemed to me to be a question so purely medical as to admit only of being discussed in professional circles. At last, however, the discussion has been publicly opened by the profession itself, through many of its members who are not friendly to abstinence. These have thrown down not one but many gloves of different pattern and quality, and the public, looking first at one glove and then at another, all in contemporary fashion, is daily boring such advocates of abstinence as I am for a reply here and a reply there, until at last it becomes necessary to pick up the challenge, the public being judge. I am sorry for this contest, but I am not responsible for it. I should now be responsible for silence, and for letting a good cause wait for

an advocate in one of its strongest lines.

ARGUMENTS FOR ALCOHOL IN DISEASE.

The first of the arguments that has been set forth by the medical advocates for the use of wine and other alcoholic drinks is that there are conditions of disease in which, according to the experience and belief of the advocates, those drinks are essential. The observers have seen persons sink and die because such persons, in states of great enfeeblement, have doggedly, and with a devotion worthy of a better cause, refused stimulants, and therefore have collapsed. On this latter class of persons some of the medico-alcoholic writers are singularly earnest in their observations; but it is not a little remarkable that, being so earnest altogether, they never seem to have observed enfeebled persons collapse and die who were not in any way dogged against the use of stimulants,—but, on the contrary, were ready and willing at any moment to take stimulants. This, I think, shows a fanaticism on the part of the medical advocates of alcohol which is very much to be lamented, but which indicates how easily the human mind, when it has been long educated in one direction, forces one-sided propositions first on itself and then on the world at large. There are several medical men here at the present time, and I will undertake to say that they have seen, as I have, a greater number by far of people who to their last were wine-drinkers, or spirit-drinkers, or beer-drinkers, die from exhaustion than they ever did of people who to their last were total abstainers from such assumed life-preserving liquids. Bearing on this point, there is, indeed, an experience with which no length of personal experience can in any way compete. From the year 1861 to 1871 there died in England and Wales 4,794,500 persons. Out of this number it would probably be difficult to find fifty, even among adults, who raised a dogged objection to alcohol. The grand majority died, moreover, from exhaustion, under the full benefit of

alcohol, if they availed themselves of it, and availing themselves of it undoubtedly in a large number of the cases, the majority died from exhaustion. This is an experience as valuable as it is memorable. Suppose I argued from it that in my opinion many of those exhausted persons would have been saved if alcohol had not been supplied to them. That, I confess, might be called a fanatical supposition. How much more fanatical, however, is it for any one to argue from a single, or even from a score of deaths from exhaustion without alcohol which he may have seen, that therefore those deaths were due to the withholding of alcohol?

The question properly considered is a general one, and will be considered as such in the long run. It will have to be argued out from general mortalities, not from individual experiences. If the great facts of mortalities should show that in abstaining communities the rate of mortality is less than in communities that indulge in a moderate use of alcohol, to say nothing of an excessive use, then, were individual experience exceptionally correct, it would be very bad for the individual experience so to announce itself as to allow it to draw a general inference out of a particular, and so to make the general good subservient to the individual. On this argument I might base all my observations at the present moment. The evidence on every side from which it can be extracted is to the effect that the abstaining classes, in alcohol-drinking communities, live the longest lives and suffer least from disease. This experience is special as well as collective. It is an experience taught in prison life, in insurance records, and in friendly society records. It is an experience which everyone knows who will honestly and rigidly cast up the recollections of his life. Let everyone here who has reached forty-five years, call up before him those who were the friends of his youth, when he was twenty years old. Let him compare those who have been drinkers of alcohol with those who have been actually or virtually abstainers from alcoholic

beverages, and he will be astounded at the results he will be forced to discover in favour of my position in this respect.

At the same time, I am quite aware that individual experience, when it is spoken with what seems to be the voice of authority, is apt to override for a time the most startling revelations of a general kind. To hear a man speak, or to read a man's statement, and to accept the same because of the man, is the easiest of all human tasks, and is often the most pleasant when it is the most delusive. To make an analysis of facts, to set the evidence of one man against another, to make out satisfactorily the capabilities of one man against another,—this kind of knowledge can only be gained by much labour, much time, and serious consideration. Abstainers are, therefore, often driven to give replies from their experience, which otherwise it were as well to avoid, out of mere matter of self-defence, and of defence of truth, which is of far more consequence.

INDIVIDUAL EXPERIENCES.

For these reasons I venture to discuss the alcohol question on individual grounds of experience, and this I do without the slightest personal prejudice whatever. The conclusions to which I am led by experience have no relation to temperance fanaticism, as it is called, on the one hand, nor to alcoholphilism on the other. The same studies which led me to introduce for medical use such agents as peroxide of hydrogen, ozonic ether, ether spray, styptic colloid, bichloride of methylene, nitrite of amyl, and ethylate of sodium, led me to the views I have been forced to take in relation to the action of the alcohols in health and disease. I have been influenced by no man's teaching in relation to any of these introductions; I have simply followed natural methods of research, and have become educated by and through natural results of research. I have merely questioned Nature with the simplicity of a child, and have looked earnestly in her face for the reply; and when I have got

the reply I have translated it to the best of my ability, without prejudice, and without care of criticism or fear of it; for why should any man have prejudice, or fear, or care of criticism from man, or men, when he speaks the truth, and knows he has the unalterable Nature at his back to corroborate him in what he says? The worst fate that can befall him is to be obliged to wait until he is understood, — a fate that everyone must bear who would advance from Nature, however plainly he may explore and describe.

In the way of medical experience in the use of alcohol, I have seen both sides of the shield. Never a follower to an extreme degree of that Bruonian system, which in our days was revived by Dr. Todd and his school; never believing that alcohol is a specific remedy, I did, nevertheless, for a great number of years, — quite five-and-twenty, — prescribe wines and other alcoholic drinks in disease. In plain fact, I long tried to make the selection of different wines and allied drinks for different diseases a matter of particular study, and have many and many a time been consulted on this one particular point. Since the year 1874 I have seen the reverse side of this experience on a large scale and in varied forms of disease. I have seen the same class of cases treated without wines and stimulants which I had before seen treated with such supposed aids; I therefore can compare the two experiences, and will do so before I sit down.

Let me, then, in the first place, deal, from experience, with the plan of pressing experience too far in respect to the use of alcohol in disease. The particulars of a case of disease have been recently given by an eminent physician, in which an enfeebled but dogged teetotaler is represented as refusing point blank to take wine or spirits in any form of strong drink. The man was urged to change his mind by the physician in attendance, but still refused, and died; whereupon the said physician, who pressed the use of alcohol, declares that he is as sure as he can be of anything that the man died because of his obstinacy. He

admires the consistency of the man, but pities him because the consistency was not shown in a better cause.

Against this mode of argument I most earnestly protest, as a mode altogether unworthy of our position, and as a mode which is sure to sell us (if I may venture on such a term) if we persist in it. The opinion expressed is nothing more than the *post hoc* looseness of expression. How does the writer, who says that the man would have lived if wine had been taken, know that as a fact?

Let me give an experience similar in character, different in result.

Before I ceased to prescribe wine, I was once called to see a confirmed total abstainer, — a rigid abstainer. He was a man of eighty years of age, and he was unable to eat food of a solid kind, owing to extreme failure of digestive power following upon an attack of choleraic diarrhœa. He was cold, with small intermittent pulse, collapsed features, and extreme paleness. At once, and definitely, he told me he would take no wine or any other alcoholic drink. In this he was supported by his wife, who was as staunch as himself. In the dilemma, as it then seemed to me to be, I ordered a very careful milk and farinaceous diet, maintained the temperature of the air he breathed at 65° Fahr., ordered such medicinal measures as I thought were applicable, and waited for results even against hope, the experience being to me entirely new. I was rewarded fully, and so was my patient, for a better and more satisfactory recovery I have never seen. The recovery was rapid, and the patient lived afterwards seven years in excellent health. On the *post hoc et propter hoc* principle, I might declare a solemn conviction that the continued abstinence of this sick man from stimulants was the saving treatment. I might argue that, weak as he was, the alcohol would not give him strength; that a stimulant would or might have lashed out of him at once the little life that remained; that his stomach might have been stimulated to revolt against the true sustaining food if an agent that was not sustain-

ing had been put into it; and that alcohol would assuredly have reduced the animal temperature if it had been used to the extent of producing a physiological effect. These and other points I might urge, some would say fairly, in favour of my patient's obstinate wisdom. But I forbear to go so far.

I recall another illustration of a similar character, in which yet a different result was the fact naturally recorded.

I was called once to advise on a case in which there was a division in the family of the sick person as to whether or not wine should be administered. The sick person was a total abstainer, and had been for over twenty years. She was now past middle life, and she had been subjected to mental depression from a serious loss of all her means by a bank failure. Intermittency of the heart was a consequence of this, and she was brought to a very helpless and exhausted state. I had taught in my essay on intermittent pulse that alcohol is a useful remedy in such cases, but she herself had no desire for it, though she promised her friends she would take it if I should be very decided in the affirmative. I was decided, and a certain moderate but fair amount of wine was prescribed. The effect was for a time to excite the circulation, and during the attacks of intermittency of the heart there was a temporary relief no doubt afforded by the stimulant. The action of the stimulant was, however, always followed by great relaxation of the vessels of the surface of the body, by chilliness, by derangement in the action of the liver, and quickly by more exhaustion and by more frequent attacks of the intermittency of the circulation. Moreover in a little time the desire for food, already indifferent, was becoming more completely destroyed, while the desire for the wine began to increase in proportion. Seeing the false move I had made, I suggested a return to the old state of things, and with every advantage to the sufferer who, under abstinence, ultimately made a fair return not to perfect health, for that was impossible, but to comparative healthi-

ness. She is, I believe, though I have not seen her for some years, alive and fairly well.

Now, here was an example of examples for the use of alcohol, with manifestly bad results from that use, and with good results following its abandonment. It would be foolish for me to find fault with any medical man for following the same course of resorting to alcohol, for my own advice could be quoted against myself. But see what a lesson the facts convey. If that lady had not received alcohol, and had thereupon become worse as she did under alcohol, how easy it would have been to say that she was worse because the alcohol was withheld. Or, if she had found relief after taking the alcohol, in the same way as she found it by leaving off the alcohol, how ready would have been the assumption that nothing but the alcohol assisted her. I am not anxious to offer any one-sided statement on the subject at all. I might be quite content to let it stand that the occurrence of certain untoward symptoms incident to the use of the wine were merely coincidental. I might be quite content to let it pass that the improvement which occurred and continued after the wine was withdrawn was not connected with its withdrawal. I have naturally my own opinion on both these points; but it is not my wish to put it forth. My only object is to beg those who do offer opinions to observe how obviously they may be wrong; how egregiously they may be wrong; and how dangerous a plan it is to give opinions on the *post hoc et propter hoc* method.

Let me give one more illustration. Long before I had ceased to prescribe wine and other forms of alcoholic drink in disease, I had two persons, both males, under my care at the same time, both suffering from large carbuncle on the back. These gentlemen, the one being seven years older than the other, were in competent circumstances; both had been active, healthy men, engaged mostly in outdoor occupations; and both had been moderate in their use of alcoholics, though neither of them were abstainers.

Locally, and with one exception, generally they were treated in precisely the same manner, but that one exception created a marked distinction. To both I prescribed wine, and the younger one took the wine as directed. When his pulse, by its flagging, or feebleness, or intermittency, called, as it was thought, for wine, wine was taken in what to the best of my judgment was a proper quantity. The other insisted on being his own master. He had "knocked off" his usual glass so soon as he felt ill, and he would take no stimulant whatever so long as he was ill. He said he enjoyed a glass with friends as much as any man, and would challenge his doctors when he got round, but he would take nothing until he did get round. From the beginning to the end he kept his word; tea, coffee, milk, and mutton broth, he would take freely, with sustaining diet and fruit, but no stimulant, not even beer.

Such were the condition of these two sufferers. We might suppose from experience that the more tractable and younger patient had much the better chances of recovery. What were the facts?

The effect of wine on the younger man was unquestionably palliative for the time its action lasted. The body warmed under the influence; the animal spirits were raised; the pulse rose; and there seemed to be more strength. But these favourable states, so hopeful and so delusive, were never of long duration. After a time there was a flush of fever, then some dryness of the mouth, and a slight haziness of intellect, with throbbing and pain in the carbunculous swelling. These symptoms were followed by coldness, nausea, a distaste for food, eructation, feeble irritability, exhaustion, with irregularity, and sometimes intermittency of the pulse. Thereupon wine was called for again, new relief followed its use, with return of the same line of symptoms in regular order. As the carbunculous local disease matured these changes became more definite and more frequent, and the final result was gradual sink-

ing, in spite of wine, collapse, insensibility, and death.

The effect of total abstinence on the older man led to the following results:—The fever at one time was considerable, during which period the pulse was quick and hard, and did not intermit. The appetite remained fair, the animal spirits very fair, and the sleep, when pain was absent, placid and refreshing. As the carbuncle became matured there was restlessness and sense of exhaustion, which was always quieted by milk food, much more slowly than by wine in the other case, but with no reacting exhaustion. The pulse now also fell and began to intermit in an unpleasant manner. Soon, however, as the local crisis came on, relief also came, with slow but steady renovation of power; and the gentleman, who so firmly resisted drink and the doctor, not only recovered, but lived actually up to the patriarchal age of eighty-six, walking with me, many years after the event I have named, from Eastbourne to Pevensey and back again on the same day, and enjoying the walk most thoroughly.

If, in the spirit of fanaticism which the alcoholphilists are prone to adopt, I were here to sum up the virtues of abstinence on such an experience as that I have now related, what a chance I might seize! How easily I might show that on the patient who took wine the effect of the wine was according to physiological rule. That it lifted up the vital processes to let them down again; that so far from sustaining the nutrition of the body it interfered with the assimilation of real nutritive substance. These and many other objections I might raise against the wine in comparing its action in the one case with the total abstinence that obtained in the other case. Without a touch of unfairness, I might say that if the facts had been reversed there are thousands upon thousands who would unhesitatingly declare that the alcohol saved the man who took it, and that the obstinate total abstainer died from the effects of his foolish obstinacy.

On my side I am not wishful to

press such view one syllable. I state only facts. It is quite open to those who oppose me to say that the abstaining patient had naturally more life in him; it is open to them to say that the abstaining patient had a better constitution. I will not dispute. I ask only that opponents be equally just, and that when they see favourable results following upon the administration of alcohol, or unfavourable results when alcohol is withheld, they do not thereupon begin to assert their mere opinion that, because such were the results, therefore the good is all to alcohol and the bad is all to abstinence.

Let us be candid all round, for we have a great deal to learn.

To the total abstainers themselves the experiences I have stated will be strong proofs in favour of their views, and may make some of them determine against alcohol even as a medicine. At one of my lectures in Ireland, the rev. and learned chairman who presided explained with much acuteness that the word "intoxicating," coming as it does from *toxicum*, a poison, was evidence enough to him that, from their first introduction, intoxicating drinks were recognised in their true characters as poisons, neither more nor less. He therefore would not be subjected to them under any emergency. Another gentleman went further; he would not, he said, take alcohol in any form as a medicine. Were it prescribed for him by the lecturer himself he would refuse it.

PERMISSIBLE MODE OF ADMINISTRATION OF ALCOHOL.

In this respect I think both the speakers went too far in the opposite direction, and this leads me to a second subject for consideration—viz., Under the scientific aspects of the alcohol question, what is a good and natural basis of action in administration? What common basis is there on which the professors of healing and the abstaining public may stand in harmony?

On one hand I am quite sure that the professors of medicine have as

full right to use alcohol as they have to use any other medicinal agent. No clamour from the public ought to interfere with them in this part of their work. For myself I claim the perfect right, and I exercise it according to my best judgment with entire independence. I have prescribed alcohol for abstainers of the purest type as I have chloroform, ether, and other medicinal substances. Against such legitimate use abstainers should not object unless they can show by their learning that their objection is founded on sound physiological bases bearing directly upon the facts of the case on which their objection is raised.

On the other side, in common fairness to scientific progress, the professors of healing ought so to prescribe alcohol that nothing shall be wanting in accuracy of prescription. The exact quantity, the exact quality, the exact purity of the alcohol ought to be known, and due provision made to ensure what is right in respect to quantity, quality, and purity. To prescribe wine without knowing whether the specimen of wine contains ten, fifteen, or twenty per cent. of alcohol; to prescribe spirits without knowing the percentage of alcohol, or whether all the alcohol in the spirit is ethylic alcohol or a mixture of alcohols; to prescribe either wines, spirits, or ales without asking whether other chemical bodies than alcohol are or are not present in them, is not prescribing at all. Any old woman, or any quack, can prescribe in that mad-cap way. It is the duty of the physician to order, in fact, the absolute remedy, to define the dose, and to direct the time of administration with the same care as if he were prescribing opium, chloral, or other active remedy. In prescribing he has before him a precise therapeutical intention, and he must be himself precise in order to ensure the fulfilment of his intention.

If this view of the position spoken of were fairly taken, all difficulties between the prescriber and the abstaining public would soon cease. I have myself followed this plan for four years past, with the utmost facility of action. When I want to administer

alcohol I write it in the prescription as absolute alcohol—Sp. Gr. .795—and I have it mixed with water to make it easy and ready for administration. In but one instance amongst all the total abstainers whom I have attended, have I found a demur, and in that instance the demur did not arise from the fact that alcohol was ordered, but from the wish of the patient that it had been ordered in the form of wine.

RESULT OF SPECIFIC ADMINISTRATION.

And now I come to the third and last subject with which I propose to deal in this address, I mean the general results of this mode of using alcohol in disease, as if it were a true remedy. I have said that the plan has enabled me to meet the difficulty of administration even amongst abstainers. I should add that the plan has also led me to form a far more accurate estimate of the real value of alcohol than I had ever before been able to make. When you say to a person, "Take so much wine or spirit," it is not only that you do not know the amount of alcohol contained in what is ordered, but that you are never quite sure about the quantity that will be given. There is a carelessness in the process because it is wine that is spoken of, a little more or less of which is too often thought to be of no moment. But with alcohol in measured doses there is a definite method, and all results stand out clear.

These results are singularly uniform and obvious, and sustain to the letter the results of physiological research. Whenever a dose of alcohol sufficient to produce an effect is given, the action of it invariably is to create a relaxed condition of the vessels of the minute or ultimate circulation; to quicken the action of the heart, by removing resistance and by quickening the circulation through the heart itself; to cause an increased flow of the secretions in most cases; to produce surface warmth for a short time; to reduce the warmth after the passing glow has subsided; to give a temporary sensation of cheeriness or light-

ness, followed by languor and depression both of mind and body.

In plain English, alcohol excites and relaxes as a primary action. Carried further it relaxes the more completely, but still excites the mind; carried yet further, it paralyses all the muscular organs, and renders the mind delirious or oblivious, according to the degree to which it is pressed.

I am quite sure, in reference to alcohol, that it has no other general action beyond what is stated above. If any wines, spirits, or ales have virtues or properties beyond what I have stated, they do not derive it from the alcohol they contain, and it is most unphilosophic to attach the said virtue to the alcohol. It is also most injudicious and misleading to give the thing which possesses the true virtue in combination with alcohol, simply because the useful thing happens to be present in an alcoholic drink. Let me illustrate this point by a plain exposition.

There are some persons who find the bitter principle of bitter ale excite an appetite. The bitter may be good to such people, but its goodness has no relation to the alcohol in the ale; on the contrary, the alcohol may be hurtful. Yet the bitter and the alcohol are taken together because they happen to be combined in the bitter ale, and the ale is extolled for appetising because it is ale, not because of the bitter, which is really the appetiser.

Again, in malt liquors there is contained, in small quantity, a substance called diastase—a substance which has the property of converting starch into glucose or grape sugar. The starchy matter of food has to be transformed into glucose before it is assimilable into the body, and therefore in some persons this digestion of starchy food is assisted by taking malt liquors. In this case the good action is due to the diastase, and has no relation whatever to the alcohol; it is, in fact, better to promote the good action by a malt extract that contains no alcohol. Yet the diastase and the alcohol are often taken together because they happen to be combined in malt liquor, and the malt liquor is extolled as a

digestive because it is a malt liquor, not because of the diastase which it contains, which is the digesting substance, and which is most active when no alcohol is mixed with it, as experience demonstrates.

When we remove all these extraneous properties of such mixed fluids as wines, spirits, and ales; when we remove the bitter substances, the diastase, the ethers, the acids, the tannin, the salts, the sugars, and arrive at the alcohol pure and simple, we touch an agent which, diluted in water, has, in the main, none other than the properties I have defined, in relation to the living body. Those properties are active enough, however, and must be well estimated. An agent which relaxes the whole arterial system, flushes the surfaces of the body with blood, pulls down the animal warmth, excites and obscures the mind, puzzles the will, and, when it is carried to its full action, lays the muscles prostrate, is not an agent to be trifled with. If a new agent capable of producing the same effects were discovered, it would create a commotion amongst the learned and a perfect *furor* amongst the unlearned. The question is: What about utilising such an agent in disease? We know what the agent is capable of doing. What shall we do with it?

Clearly enough, in the first place, the less the public have to do with it in disease the better for the public. A few months ago I saw a man in a fit of epilepsy in one of the streets of London, and, making my way up to him, found a good-natured commercial gentleman pouring a stiff dose of brandy down the throat of the unfortunate sufferer, who rose from his fit almost choked, and who fell again simply overpowered by the worst treatment that could possibly have been devised for him. On another occasion, during intense cold weather, I found an emaciated woman lying on the pavement, half dead from cold, hunger, fatigue, and drink. Her breath indicated brandy taken some time before, yet the helpers around were vehement to give her another and final dose of brandy, not one of

them conscious that the ultimate action of the alcohol in the brandy would be to help to kill by the coldness of body it would induce. Clearly the public are not skilled enough to treat disease with alcohol.

But what as to the medical profession? Are the members of that profession masters of the problem? I will answer only for myself, and I answer that, notwithstanding all my efforts, I am not master of it. I know much about it in regard to the negative qualities of alcohol. I know that, although alcohol excites, and for a moment quickens, vital action, it invariably wears out the bodily powers, and leaves a depression which is more harmful than the excitement was useful. I know that, in order to keep up the exciting power of alcohol, it must be given with increasing dose or with frequent repetition. I know that the frequent relaxation of the blood-vessels which it produces, and the flushing of them with blood, is apt to lead to congestion of the great vascular organs, especially of the liver, and so to disturbance of digestion, and bilious derangement. I know that it enkindles a craving for itself which is always a source of danger: I am satisfied that the narcotism it sometimes entices is not sleep, but a sort of half apoplexy: I am satisfied that it supports no structural formation of the body, and I am equally satisfied that when it is long continued it gives origin to structural degeneration, and to many organic and fatal diseases.

From this knowledge, negatively, of its use in disease I derive, then, this first affirmative lesson, that whenever alcohol is used it should be used only for a limited time and for very special objects indeed.

After I had come to this conclusion I thought that the objects for its use were many more than I now find them to be. Day by day, I learn some substitution method for alcohol which answers equally well, and which causes no risk or a lesser risk, so that now, except as a menstruum for carrying other agents, I rarely prescribe alcohol at all, and I really know of no agent

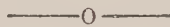
that I could better spare. Compared with opium, quinine, ammonia, it is simply beggarly in value. Even as an antispasmodic, which is its only true virtue, it is poor compared with ether or nitrite of amyl.

In faintness, when that is not from loss of blood; in concussion or stun; in severe spasm, it holds, as a temporary remedy,—that is, as a restorative,—a fair and legitimate place. In these instances it relaxes the vessels and relieves the heart.

There are also one or two conditions of irregular action of the heart in which I think, in emergency and as a temporary measure, alcohol is of service, and I hold the same view in regard to one or two phases of indigestion. But these are subjects too

technical to be considered at length now, and indeed my own mind is not so made up in respect to them as to enable me to say more than that the good which may be admitted from alcohol, even in such cases, soon becomes the bad instead of the good if the remedy be long continued and frequently repeated.

Finally, with the healthy or half healthy who indulge in alcoholics, as with the diseased, whenever either have arrived at the conclusion that for their cure alcohol is positively necessary, they have then, as I believe, arrived at the positive point of proof that the remedy is to them a greater danger than the appetite or the disease which led them to test its equivocal virtue.



THE MORTALITY FROM INTEMPERATE DRINKING, AND HOW BEST TO ARRIVE AT THE TRUTH.*

By NORMAN KERR, M.D., F.L.S., *London.*

WHEN, a few years ago, I instituted an inquiry into the causes contributing to the mortality in the practice of several medical friends, it was with the avowed object of demonstrating and exposing the utter falsity of the perpetual teetotal assertion, that 60,000 drunkards died every year in the United Kingdom. I had not long pursued this line of inquiry before it was made clear to me that there was little, if any, exaggeration in these temperance statistics; and, when asked to present the final results of my investigation to the last Social Science Congress, I was compelled to admit that at least 120,000 of our population annually lost their lives through alcoholic excess—40,500 dying from their own intemperance, and 79,500 from accident, violence, poverty, or disease

arising from the intemperance of others.

Though proposing to discuss only the direct fatality in persons killed by their own indulgence, it may not be altogether irrelevant to ask your consideration of the following facts:—1. The Government returns of the sickness and mortality of the European troops forming the Madras Army in 1849 show that the percentage of mortality was, amongst total abstainers, 11·1 per thousand, amongst the careful drinkers 23·1, and amongst the intemperate 44·5. 2. If all drinking, limited and unlimited, be taken into account, and if all our 16,000 practitioners had a similar experience to myself, the records of my own practice point to a minimum annual mortality from alcohol of 200,000. 3. If the opinion expressed by Dr. Richardson (than whom we have no higher authority) that our national vitality would be increased

* Read before the Harveian Society of London, 6th February, 1879.

one-third were we a temperate nation, be well founded, we lost in 1876, through alcohol, 227,000 lives. 4. The death-rate in the general section of the United Kingdom Assurance Company, from which drunkards are excluded altogether, being fully seventeen per cent. higher than in the abstaining section; this ratio, applied to our whole number of deaths in Great Britain and Ireland, supposing we had no drunkards amongst us, gives a probable annual mortality from what Sir Henry Thompson calls "drinking far short of drunkenness" of more than 117,000.

But to our immediate subject, the deaths caused by the excessive drinking of the "slain by drink." After endeavouring in every possible manner to eliminate the doubtful cases, and cases for which there was no complete evidence, I have been unable to bring the deaths from alcoholic excess below 40,500. That this number is greatly under the truth I have not the slightest doubt. It is generally difficult, often impossible, to ascertain the truth as to the habits of the intemperate, either from themselves or their friends, and I have no hesitation in avowing the belief that a careful and well-ordered investigation will reveal a fatality from intemperance, little, if at all, short of the teetotal tradition of 60,000. Indeed, from a more searching analysis of the causes of recent death, I am inclined to believe that even this number will yet be found inadequate to express the whole mortality amongst the victims of personal excess. Not long since the unconscious husband of a lady dying in the prime of life had to be informed by his clergyman that she was dying from secret dipsomania, the spirits she drank having long been surreptitiously conveyed to her by her own daughter.

In his interesting and valuable paper read before this society, Dr. Morton put the mortality among the intemperate much higher than I had ventured to do. The latest returns I have been able to procure show in England and Wales 510,315 deaths in 1876, 93,509 deaths in Ireland in 1877, and 76,946 deaths in Scotland in 1873.

Therefore, if Dr. Morton's estimate of 39,287 deaths of persons dying from their own intemperance in England and Wales be extended to embrace the Irish and Scotch returns, there will be a total death-roll at all ages of 52,640. Though a certain proportion of these deaths occur in very young people, when we recollect that Dr. Morton's returns comprise little more than half their due proportion of deaths in workhouses, and no deaths at all in hospitals, we at once see how closely his results correspond with what we have all been accustomed to look upon as the exaggerated figure of 60,000.

Dr. Wakley was of opinion that from 10,000 to 15,000 persons died from hard drinking in London alone every year; Dr. Lankester held that alcoholic excess accounted for one-tenth of the death-rate, *i.e.*, for 68,000 deaths; while their talented successor in the onerous post of Coroner for Central Middlesex, our esteemed associate Dr. Hardwicke, both at Cheltenham and at our last discussion on the subject here, emphatically declared his belief that the deaths from personal alcoholic excess amounted to much more than 40,000 yearly.

One county coroner has stated that intemperance was, directly or indirectly, the cause of nearly all the cases brought before him; and another that, during twenty years, excluding inquests held on children (many of these, too, arising from the drinking of mothers), and accidents in collieries, nearly nine-tenths of all the inquests he had held were on the bodies of persons "whose deaths were to be attributed to drinking"; Drs. Parkes and Sanderson, in their report on the sanitary condition of Liverpool, said that drink and immorality were the two great causes of the mortality; while Dr. Noble, of Manchester, gives it as his deliberate opinion that one-third of our disease is caused by intemperance, and another third by moderate drinking.

Permit me to add that the moderation of my own estimate of 120,000, directly and indirectly, and 40,000 directly cut off from amongst us every

year by the excessive use of alcohol, though it has been freely criticised by the Press throughout the country, has not only been seriously disputed, but has been endorsed by Dr. Hardwicke, Dr. Nunn, of Bournemouth, Dr. Hamilton, of Kendal, and a host of coroners and medical officers of health.

Dr. Farr himself seems to have awoke to a perception of the truth, for, though in his letter to the Registrar-General he had dwelt with complacency on the small number of deaths caused by alcohol, towards the close of the discussion, over which he so ably and courteously presided at Cheltenham, he admitted that perhaps 30,000 or 40,000 might die from drinking in England and Wales every year.

It is incumbent on the medical profession to disabuse the public of the idea that the Registrar-General's returns afford any indication whatever of the real number of deaths from intemperance, and I rejoice to know that our active and zealous associate, Dr. Danford Thomas, has dealt a destructive blow at this utter and most pernicious delusion. Many officers of health have repeatedly called attention to this subject. In his annual report of 1875, the medical officer for Heaton Norris says it is very rare for deaths to be registered as occurring from drinking, because a not unnatural feeling prompts the medical attendant to certify the death as having been caused by the secondary disease, rather than by the drinking itself. The medical officer for Bolton, in his annual report for 1875, says that, if the causes of the diseases from which persons died were certified, a very great number of deaths would be found to have been caused altogether, or chiefly, or in part, through alcohol.

Under the present irregular and loose system of death registration the causes of death stated in the medical certificate may be read by the friends and others. If, therefore, I were to certify that a patient had died from alcohol, the fact would be speedily known all over the neighbourhood; and thus, when the deceased had

been a secret inebriate, I would be the unenviable proclaimer to the world of the mournful and distressing truth. The registration of death was intended primarily to guard against foul play, but a very important object of these certificates is to accumulate a mass of evidence from which laws of mortality may by experts be deduced, the laws being available as a guide to the future lowering of the death-rate. In the accomplishment of this desirable end, there is no need whatever for harrowing the feelings of the survivors by gratifying the scandal-loving propensities of a curious and inconsiderate public.

What good can it do to thus needlessly and ruthlessly expose the failings of the dead? I, for one, shall do nothing of the kind; and I feel certain that few, if any, members of the honourable profession of medicine will lend themselves to so mean, so cowardly, and so useless an office. But were the medical practitioner compelled, as I proposed at Cheltenham, to send a confidential communication of every death to the registrar, or, as Mr. Edwin Chadwick has suggested, if deaths were registered by a medical officer independent of private practice altogether, the predominance of alcohol as a factor in the causation of death would be much more frequently reported than at present. The former plan could be well carried out by the changes in registration propounded by Dr. Danford Thomas, viz., that every medical practitioner be appointed a primary registrar, and be under an obligation to forward to the superintendent registrar a report of each death occurring in his practice. The first page of this report to contain the particulars as to age, sex, &c., required under the existing law, and the second page to contain replies to a series of questions which could be filled in by the family attendant, and which would give the medical history of the case. A duplicate of only the first page to be given to the friends, the second page to be treated as a confidential document.

That, in declining to unnecessarily wound the feelings of the living, and

noise abroad the frailties of the dead by mentioning intemperance in the death certificate, we are not open to the reproach sometimes cast against us, that we are evading or neglecting our duty, we have the high authority of Dr. Buchanan, who, at a recent meeting of the Society of Medical Officers of Health, distinctly declared that medical men were called upon to certify only the disease from which persons died, and were not asked what has caused the disease.

In the presence of so many active members of the profession, it would be but a work of supererogation to demonstrate the fallacy of trusting to the certificates of deaths for accurate information on the number of deaths resulting from alcoholic indulgence. Not one of over a hundred practitioners whom I have asked mentions alcohol, unless in very rare cases, in his certificates of death. Three members of a family with whom I am acquainted died from intemperance—one at the age of thirty-six from alcoholic phthisis, the second at forty from alcoholic gout, and the third at thirty-two from the effects of an accident while drunk. In none of these cases did alcohol appear in the certificate.

Many registrars are alive to the serious defects of the present system. In the quarterly return for London ending Michaelmas, 1856, after giving the number of deaths from the intemperate use of alcohol from the certificates, the superintendent registrar goes on to speak of those who die from maladies arising from intemperance, "which, however, is not shown by the medical certificate."

With all our efforts we will never be able to lay bare anything like the whole mortality from intemperance. At an inquest held recently on a young man aged nineteen, who had died from alcoholic apoplexy, it came out that the father had long been an habitual drunkard, and, of his other sons, one aged twenty-four was an idiot, and the other had died at twenty-one from disease of the brain. Few episodes of our professional career are so painful as when we helplessly contemplate the idiots, epileptics, and

criminals begotten by intemperate parents.

It has been objected that to concurrent factors ought to be truly ascribed many of the deaths commonly credited to alcohol. I believe this to be erroneous. The phthisis or the rheumatism of the intemperate is, more often than not, the direct product of the vitiation and devitalisation of the blood by alcohol poisoning: and even when a person is labouring under an hereditary disease, he can often, if sober and careful, go on with tolerable vigour to old age. whereas alcoholic indulgence may so exhaust his nervous energy and irritate his vital organs that his hereditary foe, which alone gets the credit of killing him, may be forced into rapid and premature growth in the hot-house of alcohol. By all means ascribe to non-alcoholic concurrent factors their due influence in the causation of death, but bear in mind that every person who dies, before he otherwise would have done, through alcoholic excess, must be regarded as an alcoholic premature death.

It has been urged in our own ranks, that if all these statements as to excess in alcohol being so frequent a cause of death be true, "the world's grey fathers," to whom distilled spirits were unknown, ought to have lived longer than we do. And so they did, if the recognised version of the Sacred Record be reliable; Methuselah and his contemporaries being favoured with, not to put too fine a point on it, lives somewhat more prolonged than the average duration of life in this our day and generation.

The general consensus of intelligent opinion as to the enormous mortality occasioned by intemperance in drinking is so marked that, with the exception of one feeble cry of incredulity from a medical officer of health, I know of no note of discord in the all but universal testimony of our profession and of all competent to judge, that, in the expressive language of Sir William Gull, "alcohol is the most destructive agent known to us in this country."

How best can we arrive at the

truth? It has been urged that all evidence, except post-mortem pathological appearances, ought to be rigidly excluded. To this I demur. There are many causes of death, tetanus, for example, where, without the clinical history of the case, there are no specific pathognomonic signs, and in not a few post-mortem inquiries we are able to arrive at the actual or probable cause of death only by the method of exclusion. It is true that the track of alcohol on the body is marked by a series of pathological footprints, the simultaneous occurrence of which at once raises a strong suspicion of the previous presence of this irritant narcotic; but a case came under my own notice recently where a state of kidney, usually supposed to be peculiar to alcoholic excess, occurred in the person of a moderate water-drinker. Valuable as is the examination after death, on this alone we must not altogether rely if we aim at accuracy. When, in addition to post-mortem testimony, we have the clinical history, we have the most complete proof which can possibly be obtained.

It has also been contended that an inquiry into the extent of the mortality from excess in alcohol ought to be limited to hospitals and kindred institutions, where a methodical and accurate history of cases is recorded. From this view I strongly dissent. The hospital physician or surgeon is in a far inferior position for getting at the true habits of the patient than the general practitioner. The only skilled observer who is at all likely to ascertain the truth is the family medical attendant, who has probably long attended the family, and, it may be, officiated at the birth of the patient and known him all his life. In almost every conceivable case the usual attendant of the sick person must know more of the latter's constitution and conduct than the hospital physician, under whose care the invalid may happen to be for a few days or weeks once or twice in a lifetime.

It is from the general practitioner, then, that we must endeavour to ac-

quire the information which alone can enable us to accurately estimate the alcoholic mortality. Dr. Morton's calculation was founded on returns furnished by twenty medical men, mine was based on the records of my own practice for sixteen years, and the practice of twelve other medical men for shorter periods; but the weak points of both estimates is that they are constructed on very limited premises. What is wanted is to secure returns from at least 500 medical men in different parts of the kingdom—cities and towns as well as rural districts being duly represented—and to sum up the figures thus obtained. This would afford a very fair criterion of the experience of the profession, and the ratio might be applied to the total number of those actively engaged in practice. Such an inquiry could be either limited to the deaths of persons who had died from their own excess, or might also include the deaths of the larger number who had died through accident, violence, starvation, or disease resulting from the excess of others. Hitherto very few medical men have paid much attention to the subject, so that the counterfoils of the past, with a few exceptions, can yield no thoroughly reliable data. The most accurate method would be to ask the reporters to furnish the proper returns on and after a certain date. The statistics collected would thus refer to future deaths, and would be contributed by competent observers, who would know exactly what to record.

The well-known inquiry instituted by this society into the causes of infant mortality in London was largely instrumental in securing the enactment of the Infant Life Protection Act, and in saving the lives of many helpless little children, who would otherwise have been killed; and would it be too much to hope that a judicious and well-devised inquiry into the influence of alcoholic excess on the death-rate would prove as effectual in preserving the lives of many adults who are destroying themselves by their own excess, or are being destroyed by the effects of excess in others?

TEMPERANCE v. ABSTINENCE.

A Review of Dr. Bennett's Paper in the "Contemporary Review."

By ALFRED CARPENTER, M.D.

I ASSUME that the writers in the *Contemporary Review* who argue in favour of temperance as against abstinence are of opinion that the daily use of alcohol in some form or other is beneficial, because it acts as a food, and becomes assimilated with the starch, fat, or sugar with which it is commingled, and thus aids the act of digestion, otherwise there is no foundation upon which their arguments can rest. Dr. Bennett is not clear upon this point, because he says, "We do not know if in any true sense it is a food"; but he is quite clear that men "do their work better and with more comfort to themselves if they take three or four glasses of sherry or claret as a part of their daily food." He says also, "To the broad statement that the moderate employment of fermented liquors is useful and desirable for most people, there are numerous exceptions;" but he also goes on to state that "the exceptions in our own country will only be sufficient to prove the rule." It is clear, therefore, that Dr. Bennett is of opinion that the daily use of alcohol is beneficial to a large majority of persons in middle life. It may also be gathered from his argument that it is only the foolish and the ignorant who pass over the line which separates the temperate from the intemperate; that the man who takes more than is good for him is either a fool or an ignorant person. He says he does not adopt Mr. Carlyle's estimate of the proportion of fools which are to be found among the inhabitants of the world; but he is clearly of opinion that those who pass the boundary belong to Mr. Carlyle's majority, and that they are a considerable number. He asks whose fault is it that there are so many foolish and ignorant people who cannot tell whether they are the better or the

worse in health for the amount of alcohol which they daily take; and he repels the insinuation that it is "the doctor's fault." I do not join issue with Dr. Bennett upon this point, for I have already shown in your columns the position which the doctors occupy in the matter; but I am unable to answer his query satisfactorily as regards that portion of them who consider alcoholic drinks as necessities of life. Dr. Bennett's arguments tend strongly in a direction which is opposite to his opinion, "that men do their work all the better for their three or four glasses of sherry." It may be fairly asserted that the arguments of the learned president of the College of Physicians lead to the conclusion that the ignorant and the foolish would be the better if they did not touch alcohol at all, and that total abstinence would be the proper line of conduct for the large class which they form. In fact, he advocates teetotalism for the masses, that is, for Mr. Carlyle's class, and for children. It will be remembered that Sir James Paget was quite unable to draw the line between temperance and intemperance, or to point out in what they differed as regards the alcohol consumed. It will be quite out of Dr. Bennett's power to say where is the line of separation between wisdom and folly. Will it be possible to lay down a rule as to the use of alcohol, by means of which we may separate the wise and prudent from the unwise and foolish? The reputed wise man is often sent wrong by a glass of brandy-and-water, whilst the supposed fool has carried away four times the quantity, and has not shown any change for the worse in his mental calibre. Where, then, is the line to be drawn? Dr. Bennett states most clearly that children, and those in rude health and the full vigour of

life, and who are in blissful ignorance of the meaning of indigestion, should, as a matter of course, abstain, and in effect he says, "Where ignorance is bliss 'tis folly to be wise." Thus arises the paradox that we must become fools if we wish to learn wisdom, and try to find out how much alcohol we are able to take without injury. Taking Dr. Bennett's own argument, it may be proved by this rule that the daily consumers of alcohol belong to Mr. Carlyle's majority, and that Dr. Bennett's premises are accurate, but his conclusions, as shown by his opinions, are faulty.

To draw a correct deduction as to whether a man is the better or the worse for the use of alcohol, we must have some better authority than a man's own feelings. Those feelings are not worth any more in determining the question, than is the statement that a certain man can see two moons or two posts when only one is really existing. It is the mission of alcohol to confound the wisdom of men, so that "things which are seen are not made of things which do appear." We are told by St. Paul, "That God hath chosen the foolish things of this world to confound the wise, the weak things of the world to confound the mighty, and the things which are not to bring to nought the things which are," and no better proof of the truth of St. Paul's writings could be adduced than the reasoning of Dr. Bennett, who, notwithstanding his own arguments, is convinced that men do their work better if they take three or four glasses of sherry as a part of their daily food. Dr. Bennett, it is true, only recommends this course of feeding because nervous energy, which has been exhausted, requires a restorative. These men are, he thinks, in the majority. They suffer from disturbances which have arisen to their general health from wrong feeding, or overwork, or both. But instead of adopting the sensible plan of giving up that course of conduct which has put them out of gear, and has caused dyspepsia, or some other defective nerve power, they are advised to continue the same course of conduct, and to help to swell

Carlyle's great majority, by taking of that which has made, or will continue to make, them dyspeptic. Surely if a man is dyspeptic, a "hair of the dog which bit him" cannot be scientific treatment, unless we are to subscribe to the exploded doctrine of "*similia similibus curantur*."

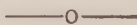
It is either the work, the habit, or the diet, which keeps up the evil, probably all three; but to enable the patient to do the one he is to continue the others. Such kind of treatment must end in the early break-down of the machine, and deprive the man of any long-continued power of work. It is allowable for a man, anxious to save a particular train, to use whip or spur for a short time; a spurt enables him to get over the ground in a shorter period, and makes his future progress easier; but if he does it daily, a bench of magistrates would be fully justified in fining him for cruelty to his beast. He would be told that he must start earlier, and give his horse more time for the journey. If a man follows his physician's advice, and takes his three or four glasses of sherry daily, he is whipping his horse improperly. It is time that he made a change in his habits. He is drawing upon his capital account, and killing the goose which lays the golden egg. If a man tries to do that which he feels that he cannot do without the use of whip and spur, he is hastening the time when a downfall will take place, and paralysis, or some other serious malady, compel him to let his daily work alone.

It is said that a moderate amount of alcohol, as a part of a restorative meal, aids more actively in repairing the waste which has taken place, that it has a special advantage over the articles of diet in restoring exhausted nerve-power. There is no doubt but that is so. Under certain circumstances it is allowable, but if it is used for a similar purpose every day, I contend that it is a wrong course, and that, as I have already said, the patient is drawing upon his capital in a way which time will reveal to him in an unpleasant manner. The horse which is whipped too frequently is

soon spoilt, the ass becomes more and more stubborn. The stomach or the nervous system, which requires such a restorative, has been overtaxed already, and a fresh application of stimulus or sedative only perpetuates the evil, and renders the man more and more convinced that he cannot do without it.

In this day of preventive medicine, it appears to me our bounden duty to remove the cause of the "exhausted nervous power," or to stay the "waste," rather than use a means which only leads to a further increase of exhaustion. The tendency to feel better immediately after three or four glasses of sherry is a delusive one; it helps a man to become one of Carlyle's great majority, and to my mind it is better to remain in blissful ignorance of the soothing influence of alcohol than to gain the knowledge at such a cost. I have the deepest appreciation for Dr. Bennett's great power as a teacher; as a pupil I have been proud to follow his lead, but having come to the conclusion that it is better to prevent the progress of disease, I am obliged to join issue with him on this point, and to assert most strongly that, however a man may think for a time that he is all the better for his three or four glasses of sherry, in the majority of instances it will, in my opinion, tend to a shorter life and decreased usefulness as regards active and beneficial work. Dr.

Bennett is of opinion, "that the steady continued exercise of the mental powers demanded of professional (and I would add of business) men is more often impeded than aided at the time by alcohol." I support this opinion to the fullest extent; but I cannot agree to the idea that men's instincts prompt them to vary their rule and modify their practice. It may be true of the wise man, but where is the wise man who has come to the conclusion that he cannot get on without "his three or four glasses of sherry"? Circumstances may compel a man to do so in his autumnal holiday, but he seldom allows this contingency to arise, and he too often returns to his work after his outing, and finds himself less able than before to bear the wear and tear of business, without resorting still more to his three or four glasses of sherry. We may depend upon it that there is nothing in our social status which interferes with both instinct and reason so much as alcohol; both are made less keen, and, however valuable sherry or any other alcoholic drink may be as a medicine, as a daily food it is worse than useless, and if we allow the argument used by Dr. Bennett, viz., that we may follow our instincts, we shall soon pass over the line which separates wisdom from folly, and belong to Carlyle's great class of fools.—*Church of England Temperance Chronicle.*



THE HABITUAL DRUNKARDS' BILL.

ON Tuesday evening, 11th March, this Bill passed through the stage of "the report," and on the following day it was read a third time and passed by the House of Commons. "There are only two changes of any consequence," says the *British Medical Journal*, "which the Bill has been subjected to in its passage through the Lower House. In the first place, its duration, so far as institutions kept by private individuals are concerned,

is limited to five years; but this provision does not extend to retreats managed by charitable or philanthropic organisations and not for purposes of gain; while of course it will be easy, before the five years expire, to extend the Act for private institutions also, should they be found to be free from those drawbacks which have been conjured up by Mr. Dillwyn's suspicious imagination. In the second place, instead of an habitual drunkard

being committed on his own application by a single justice of the peace, as was originally proposed, the Home Office inserted an amendment requiring two justices to countersign the application for admission to a retreat, after having satisfied themselves by the attested declarations of two other persons that the applicant was an habitual drunkard, and having further assured themselves that he understood the effect of his committal to a retreat. In addition to these changes in the Bill, a new clause regarding the recapture of habitual drunkards who may escape from retreats has been substituted by the Home Office for the clause relating to that subject originally contained in the measure. The Bill has still to run the gauntlet of the House of Lords, where we believe Lord Shaftesbury will take charge of it, and where we trust its fortune, under his Lordship's guidance, may prove as prosperous as it has been in the other House under that of Dr. Cameron."

Commenting upon the Bill, in its issue of March 8, the *British Medical Journal* says:—

"There are three classes of habitual drunkards with whom it has been proposed to deal legislatively.

"In the first place, there is the habitual drunkard of the police court; the wretched being who is constantly being 'had up' before the magistrates and sent to prison for a week. There can be no question that the country has to pay dearly for the repression and the support of this unhappy nuisance. It is equally clear that the system of repeated short imprisonments is utterly powerless to effect his cure or reformation, and it has accordingly been suggested that the local authorities should be empowered, at the public expense, to erect inebriate retreats or reformatories, to which the habit-and-repute drunkard of the police-court might be sent for a lengthened sojourn, and where he might be made to work for his own support.

"The second of the three classes of habitual drunkards is the incorrigible drinker, who is a heart-break to his family and friends, who is utterly

careless of the ruin he may work upon himself and those dependent on him. Every one is agreed that he would be much better shut up somewhere, where he could be kept from drink, and might have a chance of reclamation. But, unfortunately, he does not coincide in this opinion, and if he is to be dealt with effectually power must be given to his relations or friends to have him locked up.

"The third class comprises the drunkard who in his sober moments is painfully conscious of his failing, or on whom no moral pressure can be brought to bear sufficiently to induce him or her voluntarily to enter a retreat for inebriates, and remain there under control and treatment for a given time.

"Now, the objection to dealing with the habitual drunkard of the police-court in the manner suggested was very obvious. Whatever might be the ultimate result of the experiment, it was an experiment which would, in the first place, involve considerable outlay of capital. As to those drunkards who could only be dealt with by entrusting more or less extraordinary powers to their relations or friends, the possibility of the abuse of such power, and the prevalent jealousy of the liberty of the subject, rendered it a very difficult matter to devise any system for meeting such cases which would not provoke some powerful opposition. But, as to the third class—those who could be persuaded into the surrender of their liberty for a time, in order to try to get rid of a degrading infirmity—there was not the same difficulty in dealing with them. In the first place, institutions for their treatment already exist in considerable numbers throughout the kingdom. Some of these have been started from charitable and philanthropic motives, and take in hand chiefly, though by no means exclusively, persons belonging to the poorer classes. Others have originated in private enterprise, and devote themselves to the treatment of patients who are able to pay handsomely for the attention they receive. But the great drawback to the success of such inebriate institutions as

at present exist in this country is, that those in charge of them have no legal power to detain their inmates one hour longer than they choose to remain. Consequently, either the law is broken and the risk of actions for false imprisonment incurred, or the inebriate walks off at the very moment when he most requires restraint, and, in the course of a week's debauch, more than undoes all the benefit effected by months of previous abstinence. What is wanted, therefore, is to enable the inebriate of this class, in his lucid intervals, to give a binding undertaking to remain under restraint and treatment for a stated time, and to enable his custodian to enforce that undertaking and detain him³ for that period in spite of himself—of course, under proper regulation and inspection. Well, the Bill at present before Parliament proposes to do this. According to it, if an habitual drunkard desire to be committed to a retreat licensed under the Act, he must go before a justice of the peace and sign a request for admission. The justice having satisfied himself that the applicant is really an habitual drunkard, and having explained to him the effect of the step he is taking, countersigns the application, and the effect is that from that date the applicant ceases to be a free agent until the expiration of the period (which shall not exceed twelve months) for which he has been voluntarily committed to the retreat. Every care is taken against the abuse of the powers thus conferred. The retreats are to be licensed by the magistrates of the district in which they are situated. They are to be inspected by a Government inspector. It is easily conceivable that circumstances might arise which might render it desirable to release an habitual drunkard before the full period for which he had been committed had expired. The Bill provides amply for these. The patient may be let out on license to live under the charge of any respectable and trustworthy person named by a justice of the peace, on the application of the licensee of the retreat in which he has been placed; or he may be let out

on a similar license by the inspector of retreats. If it should appear that he is not a proper subject for detention, the Home Secretary, at the instance of the inspector, or any judge of the supreme court, or the judge of the county court of the district in which the retreat is situated, upon cause shown may order his liberation.

"One would have thought that these safeguards would have been sufficient to satisfy the scruples of the most zealous guardian of the liberty of the subject; but such was not the case. Mr. Dillwyn, the member for Swansea, who has a strong dislike for private lunatic asylums and believes that they bristle with abuses, was apprehensive lest a new class of institutions, in some degree analogous to these, might be established under this Bill; and he succeeded in committee in incorporating in it a proviso that, so far as private institutions carried on for individual profit—as contradistinguished from public charities—were concerned, the operation of the measure should, in the meantime, be limited to five years. He attempted to allow any inmate in a retreat, with the sanction of any single justice of the peace, to rescind his undertaking to remain there; but the House of Commons, conceiving that the effect of this would be to destroy the whole principle of the Bill, negatived his proposal by a large majority.

"But while, on the one hand, we have objectors asserting that the powers conferred by the Bill constitute a dangerous interference with the liberty of the subject, on the other, its promoters are told that, in its present shape, the measure is not worth passing. If, in the course of its progress through Parliament, many additional obstacles be placed in the way of habitual drunkards voluntarily submitting themselves to restraint, we can conceive that the measure will prove of small practical value. But if its principle be allowed fair play—if, while care is taken to prevent a person from (in a moment of maudlin pliability) divesting himself of freedom for a lengthened period of time, he should be allowed to give an intelli-

gent consent to that form of treatment which promises him the best hope of escape from the thralldom of drink—there can be no doubt that a very large proportion of cases could be reached, and the experiment tried, without cost to the State or interference with the liberty of the subject, on a scale which would enable the country in a few years to form a just and well-based opinion as to the desirability of extending the principle, and establishing public inebriate reformatories for the treatment of persons repeatedly convicted of drunkenness, and of legalising the commitment, at the instance of their friends, of persons proved to the satisfaction of a court to be in the legal sense habitual drunkards. In the United States, the law has attempted to deal with these two latter classes of inebriates, as well as with voluntary patients, but without much success; and, starting at the wrong end, considerable waste of public money has been incurred, and some opprobrium brought upon the experiment in consequence. The Committee of the House of Commons which inquired into the subject in 1872 had laid before them the results of American experience extending over close on six thousand cases. Of these, ninety-four per cent. consisted of voluntary patients, such as could be dealt with under the present Bill. The number of committals by magistrates of persons repeatedly convicted of drunkenness amounted to about three-and-a-half per cent.; and that of persons relegated to retreats against their will, at the instance of their friends, to about two-and-a-half per cent. If, therefore, the experiment proposed in the present Bill be allowed to be fairly carried out, there is no reason why the great mass of cases with which it is proposed to grapple should not be satisfactorily dealt with. American experience, too, has shown that in the case of voluntary patients—patients generally taken in hand before they had quite lost caste and self-respect—the prospects of cure are much more encouraging than among the other classes. That so large a proportion of the

whole as the American experience shows should consist of voluntary admissions is a fact startling at first sight, but very easily accounted for. Habitual drunkards are not a self-supporting class. Some of them may be persons of independent means, but by far the greater proportion of them are sunk into a state of abject dependence upon their friends. At present, after one or two failures to effect any reform in the unhappy victim, his friends turn their attention to getting rid of him by boarding him in some remote part of the country, or paying him to keep out of their sight. There can be few members of the medical profession who have not been brought into contact with persons well educated and well connected, who, although probably pensioned by their friends, find themselves from time to time in such a state of misery and starvation as would induce them to promise anything and to do anything—anything except abstain from drink—on condition of their being given just one more chance. No more natural or praiseworthy stipulation could be made in such a case than that the inebriate should give himself a chance by going into a retreat; and in this manner so large a number of persons have doubtless come to present themselves for admission as voluntary patients in the experience of America. Before the Committee on Habitual Drunkenness, to which we have already referred, evidence was given that, in Edinburgh, in certain cases where habitual drunkards whose friends were willing to pay for their maintenance in a retreat were brought before the magistrates, some of these gentlemen were in the habit of giving the prisoner the alternative of either going to prison or doing as his or her friends desired. We do not know whether this practice still continues; but it suggests how, even in its present tentative and experimental form, the Bill could deal with many cases of habitual drunkards of the police court. We trust if the Bill pass the opportunity of turning it to account in this direction may not be lost sight of. If the experiment succeed, as we have no

doubt it will, it could easily be extended by enabling local authorities either to subsidise inebriate retreats suitable for the class of cases with which they have to deal, or by allowing the establishment of inebriate reformatories, as proposed in Mr. Dalrymple's original Bill. The present measure does not purport to be more

than a tentative one. If properly carried out it may do much good, and lead to legislation productive of more. Parliament has made up its mind that the experiment shall be tried, and we trust it may be allowed to be tried under such conditions as will allow it every fair play."



THE MORTALITY REFERABLE TO ALCOHOL.

A PAPER closely bearing on this much-canvassed question was read before the Society of Medical Officers of Health, No. 1, Adam Street, Adelphi, on Friday, 17th January, by Dr. G. Danford Thomas, Deputy Coroner for Central Middlesex and Medical Officer of Health for Willesden. The title of the paper was:—"The Present System of Registration of Deaths, with Suggestions for its Improvement."

Dr. THOMAS said that he had reason to believe that a large proportion of the causes of the deaths registered as "certified" were as valueless as the "uncertified" for public health purposes. The present legal demand upon the practitioner had a tendency in many cases to prohibit him from stating the truth, the whole truth, and nothing but the truth, in the certificate he was compelled by law to give to the informant of a death, usually a relation of the deceased. From the hands into which the certificate might fall, restrictions and inconveniences surrounded the practitioner, almost forcing him to sign his name to a document filled in with a view rather to avoid giving offence and distress to the relations than with the object of affording the most accurate information of the true causes of death, which would indeed prove of real value to the vital statistics of the country. Did the well-educated, high-minded, conscientious medical man not occasionally—perhaps frequently—omit to state in the certificate the real cause which ultimately produced the death,

and would he not continue to do so as long as the law on the subject remained as it was? Some present that evening had told him they would not state the real cause of death, especially in relation to one very frequent death factor. For example, Dr. Farr found from the Registrar-General's returns that 1,120 persons died from the excessive use of alcohol out of the 510,315 deaths registered in 1876. Did they honestly believe that these figures accurately represented the total number of victims in a year who had their days cut short by the imbibition of poisonous doses of alcohol? Dr. Thomas Morton had collected the returns of twenty medical friends, and had come to the conclusion that 37,900 deaths were in England and Wales alone directly caused by alcohol. Dr. Norman Kerr, at the Social Science Congress at Cheltenham, had, in an elaborate paper, estimated that 40,500 annually died in the United Kingdom from their own intemperance, and 79,500 from the intemperance of others, making 120,000 in all. How many of the deaths returned as cirrhosis, hepatitis, jaundice, dyspepsia, pyrosis, stomach disease, Bright's disease, phthisis, insanity, paralysis, apoplexy, cephalitis, dropsy, &c., were, as they all knew, directly due to alcohol, or were accelerated by it. Why, then, he asked, was this not stated in the death certificate? The replies of three gentlemen present would supply an answer. One said he would not think of adding chronic alcoholism or dipsomania. Why should

he? Patients knew what these terms meant, and would be offended, and he would never see them again. A second said he seldom made any allusion to the drink. Patients did not like it, and it was hurtful to the feelings of friends and relations. As long as he had to place his certificate in the hands of friends, he would never mention intemperance as a cause of death. A third said he never referred to drinking in the certificate. He would never see the friends again if he did so. Besides, he declined to spread private matters abroad. Dr. Thomas went on to say he was convinced the medical practitioners would certify correctly if the system of registration were improved, and he proposed that every registered medical man should be a primary registrar of deaths, whose returns should be made to a superintendent registrar, who ought to be the medical officer of health for the district. The primary registrar would record every death on a prescribed form, on one page of which should be the particulars at present required from an informant of death; and on the other a confidential report to the superintendent registrar, and through him to the Registrar-General. This latter would consist of replies to a series of questions so arranged as to afford a concise but complete medical history of the deceased, as far as could be ascertained by the primary registrar, who, as a medical attendant, would be in a position from his knowledge of the patient to answer fully all the questions asked. The first page of the report might be used for public purposes, but the second, containing the private medical report, to be treated as confidential by the authorities, and no copies supplied to friends or others.

Dr. STEVENSON, the President, having thanked Mr. Thomas in the name of those present for his able paper, said they did well to remember that in giving the certificates of death they had two objects in view—the primary one being to ascertain that persons deceased died from natural causes, and that death had not been due to any improper manipulation of any kind

whatever; but at the same time a secondary object had grown up, which was very closely allied with their work as medical officers of health. They had added to these death certificates other information which would aid them in their sanitary efforts, and on this most of the sanitary work of the country was now based. It was quite possible that the certificates might not state all that they could wish, but he submitted for the consideration of the meeting whether too much prominence had not been attached to the cause of death by those who had taken up the alcohol question.

Dr. THOMAS: I do not take it up on that ground at all.

The PRESIDENT: It was fairly open to a difference of opinion whether, when a person died of dropsy or cirrhosis, and this was certified, the medical man had not done all that might fairly be demanded from him, and whether he was justified in stating on his certificate that the primary cause was alcohol. Perhaps he might have no doubt about it in his own mind, but some one else might have that doubt. Therefore, if they stated the diseases from which persons died the causes ought not necessarily to be placed on the certificate. He mentioned this, not so much as his own opinion, but as another view of the question which perhaps might be profitably discussed.

Dr. TRIPE, medical officer of health for Hackney, said he was surprised to find it put forth in the paper that medical men had abstained from certifying the true cause of death from fear of money loss, loss of influence, or loss of position. He must plainly say that he gave no credit to any such assertion. That they might, out of regard to the patients' friends, occasionally have suppressed what they considered it unnecessary to be known for the public benefit he was inclined to believe. He agreed with Dr. Thomas so far as that, but did not think the alleged practice had been carried to a greater extent, except in a very few instances. Again, to say that 100,000 persons died annually in Great Britain from the effects of alco-

hol, and that such was the general result of over-stimulation was, he thought, carrying matters very far indeed. He practised in a poor district of London for twenty-five years, and saw between 3,000 and 4,000 cases annually during the greater part of that time, and was astonished to find so little injurious effect result from drink, and yet this was a locality in which it would be supposed that effect would manifest itself in a very striking manner. However, he had not hesitated to return (whenever he thought it necessary) death from delirium tremens or chronic alcoholism; but to say that these cases prevailed to the extent that many believed was something that his own experience forbade him to entertain; cirrhosis of the liver and kidney disease, usually attributed to drink, arose very commonly from no such cause. He had seen appearances follow scarlet fever, &c., very similar to those arising from alcohol; and, in fact, if he were to follow the guidance of his own practice, he must entirely disagree with the enormous number of such cases that were put down to drink. More evil was done by drink morally than physically; but to attribute one death in fourteen to strong drink seemed to him a most astounding assertion, and one that required greater proof to sustain it than had yet been advanced on its behalf.

Dr. BUCHANAN said he could not let one part of Dr. Thomas's paper pass without protest. He had remonstrated with medical men on what practically amounted to their dishonesty in dealing with these certificates. He objected to that. True, they did not give the full certificate that Dr. Thomas would like; but why not? Surely, because they had to speak of the cause of death and not of disease. This it seemed to him was a thing so palpable as to acquit medical men from not going back to alcohol and other antecedent causes. The cause of death was the disease or injury, without which the death would not have taken

place. It was beyond the medical man's province to speak of the cause of the disease. Surely if a man put down that a child, for example, died of diarrhoea, he was not bound to say that the diarrhoea was caused by bad food, sewer-air, or the thousand-and-one causes to which people attributed that malady. What could the practitioner have to do with the cause of diarrhoea for any purpose of registration? That he might have to do with it as a medical officer of health or as a medical practitioner was most true; but who would blame him for not putting down in his certificate matter which at present was certainly not required? His business was to state the disease of which the patient actually died. The cause of the disease might be difficult to ascertain, and alcohol might merely be one of several factors.

Mr. LOVATT, of the St. Giles's district, was of opinion that the system of registration now in vogue was one of the most carefully conducted offices of the State.

Dr. THOMAS, in reply, repeated that he had not introduced this question from the alcoholic side at all, but simply because strong drink was notoriously a large factor in producing death. What he had desired to suggest throughout the paper was that if the law were altered—viz., that medical men should deliver one certificate into the hands of the friends, and send another to the registrar direct, he was certain they would have a much more correct account of the true causes of death given than now. He read to the meeting three remarks from members of their own body, and thought that was one proof that if this alteration were made they would be more outspoken as to the real cause of death. To bring this change about had been the object of his paper, and he trusted that his fellow medical officers of health would give the subject more attention than they had hitherto done.

The discussion then closed.

AN IRISH PHYSICIAN ON MODERATE DRINKING.

In a letter to the *Medical Press and Circular*, Dr. Wallace, of Parsonstown, says:—The paper of Dr. Morton on "The Mortality Referable to Alcohol" suggests the inquiry whether a large amount of what is, physiologically, the intemperate use of alcohol is not covered by the expression "moderate drinking." It is therefore of the utmost importance to ascertain what it is customary to consider a moderate use of stimulants.

We all know what is a moderate use of bread or beef. As to one's sensations, it is eating slowly till one is satisfied. As to quantity, it is eating daily from half-a-pound to a pound of bread, and from half-a-pound to a pound and a-half of meat. So of other articles of diet. The appetite forms an excellent guide as long as it is supplied with wholesome, well-cooked food, not in too great variety. People generally eat too much only when they eat to kill time, or when they are tempted by a variety of cookery. Those who have sufficient occupation of mind and body seldom eat too much, and all such may sit down to dinner day after day and eat till they are satisfied without any dread of undermining their constitution or laying the foundation of insidious disease. With alcoholic drinks, on the other hand, the case is wholly different. One cannot sit down and drink of these till he is satisfied with the same assurance that his sensations will warn him when he has taken enough. Enough does not take away the appetite for more. There is, therefore, no easy accessible standard by which to determine what moderate drinking consists in, and a very great discrepancy will be found in the estimate of what it is. A thirsty iron puddler considers six to ten quarts of porter in the day moderate drinking. And so it is to him, so far as the quantity of water is concerned. But how about the alcohol which is taken with it? Can that be taken with impunity in such quantity? And yet

there is nothing in his sensations to warn the man that he is exceeding moderation. His quart of porter quenches his thirst for a time, but does no more. It gives no such sense of repletion as eating a pound of beef steak does, and therefore when his thirst returns in an hour, he is quite ready to repeat the draught.

But to turn to less extreme cases. I believe a tumbler of punch after dinner, and the same at bedtime, would not be considered as other than a moderate use of stimulants. Many would consider two on each occasion not too much. One shilling and three-pence a day is the usual allowance for "wine money" on board of ship. That means about five glasses of sherry. Dr. T. K. Chambers gives as his own daily allowance from five to seven glasses of port or sherry. On the whole, therefore, one cannot be far wrong in assuming that a moderate use of stimulants, as recognised by the profession and the public, consists in taking from two to five ounces of proof spirit in some shape in the course of the day. Now it would be interesting to know what medical men, whose experience extends over twenty-five or thirty years or more, have to tell of the personal history of patients who have been moderate drinkers during that period. I believe it will be very much like this:—Some have become habitual drunkards; some have got those diseases of liver and kidneys which are universally admitted to be pathological effects of alcohol; and a good many are hale, healthy men, who have passed the great climacteric, and bid fair to live to a good old age.

I do not think I have put the case at all too strongly against moderate drinking, and it seems to me that in the face of such an impeachment medical men incur a grave responsibility in recommending it.

There is only one answer that can be given to this, and it is that the good outweighs the evil, and that serious

mischievous, moral and physical, would result from the disuse of alcohol. Sir James Paget has recently gone so far as to assign their drinking habits as a chief reason of the superiority of Occidental to Oriental nations. There have been many prescriptions for the "sick man" since Nicholas of Russia first gave an unfavourable prognosis in reference to him. Diplomats should turn their attention to this most recent one. England once "drank herself out of the 'Alabama' difficulty." Possibly a solution of the Eastern Question might be found in the introduction of the English institution of the public-house into Turkey. I would, however, suggest that as swine's flesh is prohibited equally with wine in Moslem countries, possibly the superiority of the West is quite as much due to its bacon-eating as to its bibulous propensities.

Passing from this, one would like to see a categorical statement of the diseases which result from abstinence from alcohol.

The dyspepsia arising from albuminoid food being altogether withheld is well known as amylaceous dyspepsia, and not less marked is the dyscrasia resulting from fresh vegetables being lacking in the diet. But I confess I never met with a total abstainer's cachexia, nor am I acquainted with any one who ever did. I believe, however, that the ground generally taken is, that though alcohol is not required in a state of health, yet that it is required by many as an habitual medicine. Now, without entering on the general question of the value of alcohol as a medicine, since I believe that a great deal has still to be done to define the extent of its curative powers, I must say that it is a most dangerous practice to commit the administration of such a potent drug to the patients themselves. No one would be justified in prescribing strychnine, aconite, or digitalis, without constant supervision of the patient and the most watchful care lest an overdose should be taken. No doubt the risk is not of the same kind in the case of alcohol. There is no danger of a coroner's inquest because a patient

has happened to take four doses in one, but the danger is not the less real. Nervous patients, with little sense, and less self-control, find that their daily dose of alcohol brings them wonderful comfort, and as the doctor has prescribed one dose with such good effect, they conclude that another prescribed by themselves will be equally beneficial, and so the drinking habit is formed, I suppose there is not a reader of these columns who cannot call to mind instances of persons who have acquired drinking habits through medical prescription; and I believe the rule of a recent contributor to your journal is an excellent one—that when alcohol is prescribed it should be so disguised as not to be recognised by the patient, and that it should only be taken by him by prescription, and while under observation.

It must be clearly understood that in making these remarks I am not looking at the question from a teetotal point of view. I am not taking the ground that drinking wine is morally wrong, either inherently or because a pledge has been taken against it, and that therefore it is equally wrong to drink a teaspoonful or a quart. Neither do I raise the question whether there are any reasons why a man should abstain altogether rather than drink, say, half-a-glass of sherry in water at his dinner, seeing that the alcohol in such a quantity of wine can have no physiological effect one way or the other. I simply raise the question, What are the physiological and pathological effects of moderate drinking in the usually accepted signification of the expression? And my contention is that the expression has sufficient latitude to cover an amount of drinking which in numerous instances leads to fatal results.

I would add, in conclusion, that the experience of the Temperance and General Life Assurance Association is of much interest. This association divides its policy-holders into two classes, professed total abstainers, and persons who make no such profession. The last class must of course include both moderate drinkers and a large number of persons who, though not

teetotalers, make only a limited and occasional use of alcoholic drinks. The association affirms that the mortality among the abstainers is very much less than among the other class. As the latter contains many persons whose use of stimulants does not pro-

duce any physiological effect, it would appear that if stimulants be indeed the cause of the difference between the two classes, they must be debited with even a greater amount of mischief than the mere difference of opinion would show.

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THE LORDS' COMMITTEE ON WORKHOUSE DRINKING.

THE Report from the Select Committee of the House of Lords on Intemperance, ordered to be printed 17th March, 1879, contains the following paragraphs relating to this important subject:—

“The attention of the Committee has been directed to a return made to the House of Lords on the 11th June, 1877, showing the quantity and cost of ale, wine and spirits consumed by in-door and out-door paupers in

each union in England and Wales, puring the year ending Michaelmas, 1876. A similar return having been made to Parliament for the year ending Michaelmas, 1871, the Committee have been able to make a comparison of the quantities consumed during the two periods respectively, and they are glad to find that a large diminution has taken place in the consumption under each head, as will be seen by the Table subjoined.

Comparison of Quantities of Ale, Wine, and Spirits, consumed in Workhouses and by Out-Door Paupers in the Year ending Michaelmas, 1871 (8th August, 1872), with the Quantities of the same Articles consumed in the Year ending Michaelmas, 1877.

ENGLAND AND WALES :

		1870-71.	1876-77.	
IN-DOOR :		<i>Pints.</i>	<i>Pints.</i>	
Ale, reduced from	...	8,675,337½ to	6,268,789	above one-fourth.
Wine „ from	...	168,699 to	115,583	above one-third.
Spirits „ from	...	232,711 to	205,549	above one-eighth.
OUT-DOOR :				
Ale, reduced from	...	780,799 to	244,793	nearly five-eighths.
Wine „ from	...	165,829 to	70,583	exceeding one-half.
Spirits „ from	...	101,673 to	58,725	nearly one-half.

COST.

		£	£	
In-door, from	...	81,415 to	64,469	
Out-door, from	...	32,010 to	14,861	
Together, from	...	113,425 to	79,330	nearly one-third.
Showing a saving of		...	£34,095	

"It must, however, be observed that this result, satisfactory as far as it goes, cannot be entirely attributed to a change of system in the practice of the medical officers and Board of Guardians, inasmuch as in most unions the number of paupers relieved both in and out of the workhouse, has been less in the latter than in the former period. As the return for 1876 does not give the number of paupers relieved in the respective unions, we are unable to ascertain to what extent the reduction of consumption may be attributed to this cause. But we have no doubt, looking to the figures before us, that the allowances to paupers of ale, wine, and spirituous liquors have been largely reduced.

"Mr. Darby stated to the Committee, in answer to Question 6098: 'I have a letter from the master of the Wrexham workhouse, dated 2nd May, 1877, in which he says, "Having now had nearly five years' experience of the disuse of alcoholic stimulants in this workhouse, I beg to state that I find the practice quite satisfactory. The health of the inmates has not in any way suffered by the change, their conduct has improved, and a large sum is annually saved to the rate-payers. Morally speaking, the present system has much to commend it, and has been eminently satisfactory; I never heard any complaints from the inmates as to the disuse of alcohol, and I find the use of beef-tea, eggs, and milk answer better, and at a less cost. The conduct of our inmates as a class is good, and much to be praised; I have only had to inflict five punishments during last year, though our weekly average has been 242. I have no difficulty in getting extra or onerous work done without recourse to alcohol, which I am afraid is largely practised in our workhouses. I can unhesitatingly say, that I think that all workhouses and other public institutions for the relief of humanity can be better conducted without alco-

holic drinks, either given as medicine or as a beverage, and I know that our medical officer is quite satisfied with the result of the practice here."'

"We believe that a similar improvement has been gradually introduced in the treatment of patients in public hospitals, and we would refer to the evidence of Dr. Sir William Gull, who stated that he objects to the immoderate use of alcohol in medicine; that he thinks the medical use of alcohol might be further diminished; that he would not use it unless positively necessary.

"The Committee consider this subject to be one of very considerable importance. The supply of alcoholic drinks to the poor, whether given in workhouses or to out-door poor (except in cases in which it is medically indispensable), has a tendency to create a taste for stimulants in those who, perhaps, would not otherwise have acquired it, and it leads ignorant people to conclude that as wine and spirits are prescribed for them by the doctor, and supplied by the relieving officer, they must be a needful remedy in most cases of illness, and thus the habit of flying to the bottle for relief is created, and the groundwork is laid for habits of indulgence and intemperance, which would otherwise never have been acquired."

"Their Lordships state that they had called for the evidence of the most distinguished physicians of the day, including Sir William Gull, Dr. Burdon Sanderson, Sir Henry Thompson, and Dr. Richardson; but although much valuable and interesting information has been provided by these gentlemen, "it does not appear from their evidence," in the opinion of the Committee, "that there is any theory as to the physiological properties, or as to the dietetic or medicinal value of alcohol, which is as yet so generally accepted by the medical profession as would warrant its being adopted as a basis for legislation."

STRONG DRINK IN WORKHOUSES AND HOSPITALS.

NOTTINGHAM WORKHOUSE.—At a recent meeting of the Nottingham Board of Guardians, Mr. Gordon's motion for a return showing the quantity of ale consumed in the workhouse during the eight quarters ended at Christmas last was as follows:—

Year	Quarter	Galls.
1877	Lady day	1,441
"	Midsummer	1,343
"	Michaelmas	1,052
"	Christmas	959
1878	Lady Day	943
"	Midsummer	888
"	Michaelmas	630
"	Christmas	344

MANCHESTER ROYAL INFIRMARY.—At the monthly meeting of the Board

of Management of this Institution, held on Monday, December 30, Mr. E. S. Heywood presiding, the minutes of the house committee contained the following report from a sub-committee appointed by the medical board:—
 "Your sub-committee thought it desirable to obtain information respecting the quantity of the various stimulants consumed at some other hospitals to compare with that combined in our own. The following is a comparison of the quantity of wines, spirits, and ale and porter consumed by the patients in the undermentioned hospitals during 1877:—

HOSPITALS.	Number of in-patients.	WINES.		SPIRITS.		ALE AND PORTER.	
		Total consumption.	Average consumption per patient.	Total consumption.	Average consumption per patient.	Total consumption.	Average consumption per patient.
		Gal.	Oz.	Gal.	Oz.	Gal.	Oz.
Manchester, 1876 ...	3,714	131	5·6	340	14·6	1,730	74·5
Manchester, 1877 ...	3,841	168	7·0	305	12·7	1,384	57·6
Liverpool Northern...	2,050	113	8·7	122	9·5	not given.	
Birmingham General	3,032	65	3·4	74	3·9	835	47·2
Glasgow Royal ...	3,457	224	6·5	236	6·9	not given.	
Edinburgh Royal ...	4,937	235	7·6	313	10·1	838	27·1
London, St. George's	3,400	311	14·6	640	30·1	not given.	

From this it appears that as regards the consumption of wines there is not much difference between Manchester on the one hand and Liverpool, Glasgow, and Edinburgh on the other, whilst Birmingham is much lower and St. George's much higher. As regards spirits, Manchester is considerably in excess of all hospitals, with the exception of St. George's. The same remark applies to ale and porter, as far as the returns serve. The table shows also that in our hospital during 1877 the quantity of wine consumed was greater than in 1876, and the quantity of spirits, ale, and porter less. We have examined the dispenser's

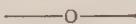
book, and find that it is usual when patients have once been put on stimulants to continue them, sometimes in considerable quantities for lengthened periods. We draw the following conclusions from our investigations into this subject:—1. That a considerably larger quantity of stimulants is given to the patients than their cases require, and especially on the surgical side. 2. That this arises from two causes, viz., their being prescribed too much as a matter of routine and their not being stopped when the need for giving them has passed away. 3. That, beyond an occasional failure on the part of a nurse to report to the

dispenser the discontinuance of stimulants in certain cases, there appears no reason to think they are procured except by medical order. We venture, in conclusion, to make the following recommendations to the board:—1. That a small coloured card should be affixed to the bed ticket of each patient taking stimulants, to draw the attention of the physician or surgeon to the fact at his subsequent visits. 2. That the order for the supply of stimulants should be sent to the dispenser on a special form for the purpose, which should be filled up daily by the resident medical and surgical officers. 5. That a special stimulant mixture be added to the 'Pharma-

copœia,' to be kept by the nurses in 'stock bottles' for use in emergencies, and that no pure alcoholic stimulant be given by any nurse without a special order from the resident medical or surgical officers, or the officer acting for them." Mr. Alderman King, in moving the adoption of the minutes, said that already there had been a remarkable diminution in the consumption of alcohol in the infirmary. He hoped this would go on, for it was certainly very desirable that the consumption of stimulants should be brought to the lowest point it could be, consistent with the recovery of the patients. The minutes were confirmed.



Notes and Extracts.



ALCOHOL AND OXYGEN.—The brain must be fed and nourished by special design. An adequate supply of oxygen is the preliminary requirement. Then comes the question of food; and, whatever else may feed the brain, workers with this organ should be assured that alcohol will not sustain it. Alcoholisation and oxygenation are directly antagonistic processes; and even if alcohol be food for the brain, the organ cannot feed when the nutrient fluid circulating in its vessels is disabled from the task of conveying oxygen, which happens whenever spirit is present in more than very moderate proportions in the blood. The relief afforded by alcohol from the sense of depression produced by a lack of oxygen is, therefore, illusory. It is procured by over-stimulating an organ which is both exhausted and impaired.—*Lancet*.

A RAILWAY MANAGER'S TESTIMONY.—At the opening of a Coffee-house last month at Leicester, Mr. Allport, general manager of the Midland Railway, said that for some years past

he had been much struck with the statistics of that horrid drink question. He had been a moderate man all his life, but three or four years ago he became convinced that it would be better to do without altogether, and he had not taken a glass of wine for nearly four years. From his experience he could say that every man might leave the habit off if he pleased, and he would strongly advise every man, he did not care what his labour might be, whether it be mental or physical, he would be better without alcohol than with it. He had never felt the want of it since he had abstained, and he could do his work better now than he did before.

MEDICAL TESTIMONIALS.—In a letter to the *Sanitary Record* (Dec. 27), Mr. P. Hincks Bird, F.R.C.S., says:—"I wish to draw attention to the too common and very reprehensible practice of medical men and analysts helping the broad-casting of testimonials for almost anything, including alcoholic drinks—especially sherry, and again whisky. Does it at all follow

that the public get the identical article of which, naturally, the advertiser would send the best possible specimen to the analyst? I hear on unimpeachable authority that one distinguished testimonial giver offers to report favourably on any article for five guineas. Once applied to, with a specimen, I replied somewhat in the following style: — ‘Gentlemen, I have tasted your — Whisky, and, having tried various vermin killers in my time, believe yours superior to them all. You are at liberty to make use of this.’ ”

ALLEGED CURE FOR INTemperance.—Dr. D’Unger, Chicago, it is reported, has discovered a cure for intemperate habits. The medicine is red Peruvian bark (*Cinchona rubris*), designated by druggists “quill bark,” because it comes from twigs about the size of a quill. A pound of the bark is reduced to powder, and soaked in a pint of diluted alcohol. It is then strained and evaporated down to half a pint—that is, a pound to a half-pint. The inebriate is given a teaspoonful of the medicine every three hours, and his tongue occasionally moistened between the doses during the first and second days. The third day the dose is generally reduced to half a spoonful, then to a quarter of a spoonful, and gradually lessened to fifteen, ten, and five drops. This treatment is continued from five to fifteen days, and in bad cases to thirty days; the average is about seven days. Dr. D’Unger, it is stated, has cured nearly 3,000 cases of the most depraved forms of intemperance by this new remedy. Moreover, it appears to be engaging the attention of physicians and temperance advocates of Chicago. One common effect produced by it is a subsequent strong dislike to liquor in any form.—*Medical Times and Gazette*. [This “perfect cure” may be very efficacious if accompanied by entire and permanent abstinence from alcohol; without that it will prove only “a delusion and a snare.”]

ALCOHOLIC HEMIANÆSTHESIA. — M. Debove read, at a recent meeting of the Société Médicale des Hôpitaux, some notes relating to this subject. The patient was a strong-built man,

aged fifty, who was much addicted to drink, and swallowed daily considerable quantities of alcohol. He entered the hospital on account of pneumonia, had a violent attack of delirium tremens, and recovered. During his convalescence, it was noticed that the whole of his left side was anæsthetic. Various attempts were made to cure the patient; discs of metal were successively applied to the forearm, but the only one by which sensibility could in any way be restored was silver. The next day, a very feeble continuous current was used, one pole being applied to the forehead and the other to the dorsal surface of the foot. Thirty minutes later, sensibility was permanently restored. Immediately, however, after this favourable result, the patient began to complain of violent sciatica on the side which had previously been hemianæsthetic. It was then discovered that he had, for several years previously, been suffering from sciatica, which had subsequently been masked, as it were, by the hemianæsthesia, and which immediately came on again when the latter was dispelled. When the patient, some time afterwards, met his doctors, he gave utterance to sentiments which could not be considered as expressions of gratitude for having brought back his sciatica. — *British Medical Journal*.

ALCOHOLIC REMEDIES IN DISEASE. —In a communication to the *British Medical Journal*, Mr. J. J. Ritchie, Medical Officer of Health, Leek, says:—“As any facts in relation to the question of the treatment of disease by alcoholic remedies are at the present time specially interesting, I beg to forward the following as worthy of attention and of some significance. In 1872, the Leek Improvement Commissioners erected a temporary hospital for the reception of cases of infectious disease, and, up till the end of July last, one hundred and twenty-six persons had been admitted, suffering from small-pox, scarlet fever, typhoid fever, measles, and diphtheria. Each patient was attended by his or her own medical man, and thirty-six had alcohol in some form administered to them, while ninety were treated with-

out it. Of these cases, forty-nine were scarlet fever, of which thirty-nine had no alcohol given, and amongst them two deaths occurred; the other ten had alcohol prescribed, and amongst these five deaths happened. There were forty-two cases of typhoid fever; of these, twenty-one were treated with alcohol and the deaths were three; twenty-one had no alcohol, and one death occurred. The general results were these. Each patient taking alcoholic beverages remained in the hospital twenty-five days, on the average, and the mortality was 30.5 per cent. Each patient treated without alcohol remained in the hospital, on the average, seventeen days, and the mortality was only 3.3 per cent."

ARE INEBRIATES AUTOMATONS?—Such is the question which Dr. Beard, of New York, puts to the American Association for the Cure of Inebriates, at Boston, and which he has no hesitation in answering in the affirmative. "So long as a man is merely a drunkard he has it in his power to reform if he have a good endowment of will and can keep out of temptation. But in the disease of inebriety the sufferer has little or no more volitional control over his drinking symptoms than has a sufferer from neuralgia, or from sick headache, or from hay-fever. We admit there are a few exceptional cases in which uncontrollable drunkenness may be viewed in the light of a disease, or as a species of insanity, but these cases must be very few. At all events, the principle of looking upon "dipsomaniacs" as bereft of all voluntary control over themselves is a very doubtful one; inasmuch as the more this class of people are brought under the subjection of others the less likely they are to exercise what little will they have of their own. We are all, to a certain degree, more or less automatons, but it would be very unsafe practice to carry out this doctrine to its logical conclusions. The thief, the burglar, the murderer, may be regarded as automatons, and as having impulses over which they have no control. But the principle on which we deal with such criminals should, with certain reservations,

guide our treatment of the habitual drunkard. Admit that he knows what he is about, that he has more command over himself than his friends suppose, and by all possible means deter him from continuing the course he is taking.—*Medical Press and Circular*.

CAPTAIN WEBB ON ALCOHOL.—My first public swim was in July, 1875, when I swam from Blackwall to Gravesend, a feat then thought wonderful—just as Weston walking 110 miles in twenty-four hours was thought very wonderful shortly afterwards, simply because it was not known how much fatigue a man was capable of undergoing. A repetition of either of these feats now would be thought nothing of. In this first swim I learnt one good lesson, which, thanks to some good advice I got afterwards from one who has been a great friend of mine ever since I swam across the Channel, I believe has been the cause of my ultimate success. When I swam from Blackwall to Gravesend I very nearly failed, owing to some person on board the little boat which accompanied me, as well as a steamer, insisting on giving me brandy. Now I am no teetotaler, and I am happy to say I can keep sober without bragging about it; at the same time having a genuine and heartfelt pity for those who can't. Of one thing, however, I am assured, and that is, no really great feat of endurance can be performed unless next door to total abstinence is adhered to. When young men go on long walking tours, a glass of beer at every village inn means failure; and as to spirits, they are simply poison. If I had really taken nothing I should have reached Gravesend without any difficulty whatever; as it was, I was in kind but stupid hands, and although I succeeded in my first public attempt, it was with difficulty, and I then determined, from what I felt from sipping brandy during the swim in the foolish hope of getting good, coupled with what I afterwards heard, never again to take spirits while undergoing prolonged exertions. Weston, the great walker, coincides in my opinion on this point.—*Boy's Own Paper*.

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Original Contributions.

AN INAUGURAL ADDRESS

BY BENJAMIN WARD RICHARDSON, M.D., F.R.S.,

President of the British Medical Temperance Association.

“ Be stirring as the time ; be fire with fire ;
Threaten the threatener, and outface the brow
Of bragging horror. So shall inferior eyes,
That gather their behaviour from the great,
Grow great by your example.”

OUR national poet made these lines address themselves to a living power he had in his mind which he wished for his dramatic purpose to excite into vigorous action. The words meant an instigation to sharp, decisive, and real warfare against an armed threatener. To-day in relation to actual war no such words are necessary ; but there are struggles—warfares, if we like to call them so—to which the words, and the thoughts expressed by the words, wondrously apply. The civilised world is just now in open hostility to a threatener which, of all others, has, time out of mind, been most deadly, ruinous, cruel, and devastating. A threatener, grafted on to a superstition, self-inflicted by man on man, that he, out of the whole circle and chain of living creatures, must have for his life and sustainment a thing to drink so foreign to his nature that he must learn to endure it before he likes it, and then suffer endless penalties for the liking he has acquired. In the fifty years which I have lived this superstition has been, by direct and indirect means, the cause of death to at least two millions of human beings in our country alone. What war, what

conqueror in the histories of the world, ever destroyed forty thousand persons a-year in one country every year for forty years; what plague, pestilence, or famine ever committed such havoc?

Nor is it a question only of death that is to be considered. There are the consequences also to the survivors. There are the diseases, the griefs, the shame, the disgrace, the helplessness, the homelessness, the poverty, the crime, the whole of the domestic anarchies incident to the mortality. These must be added to the triumphs of the merciless threatener, the Juggernaut of civilisation.

I am by profession a healer of men. I solemnly swore on entering the splendid profession to which I belong, I solemnly swore as my brethren of the same calling have each and all solemnly sworn, that I would consider it a part of my holy duty, as long as I lived, as a capable rational being to practise it, to respect, of all things, life; to relieve pain and disease, to alleviate, and to the very height of known skill, according to my gifts, to stave off death from my fellow-men. Can I, in conscience, in the remembrance of so solemn an obligation, be anything else than a foe to so mortal a threatener as that which slays forty thousand of my countrymen per year, and accompanies the act with all the accessory ferocities and evils attendant on such wholesale destruction? I ask any member of the body of Medicine, who is under the same obligation, if he can reconcile the tolerance of this practical and merciless threatener with the conscientious fulfilment of his binding obligations? What men of any class are so encompassed with an obligation touching the lives and interests of their brother-men?

One of the objects why the society of medical men which meets together now has been formed, is to threaten the threatener, and, as the poet would continue,—

“To outface the brow
Of bragging horror.”

For this superstition is, of all superstitions, a bragging horror of the truest kind. No man at table lifts his glass defiantly to his neighbour to encourage him to the same, or to laugh at him for non-compliance, without having the consciousness that the act is simple bragging, and that the end of it, as a lesson, is, in the strictest sense of the practice of it, mere horror, which he could not look at were it put before him in all its wholesale woe.

We, as a society, are a small body. We number a hundred at most, all told; so that I am, by the pleasure of the members, as their captain, a mere centurion in the army of medicine. Still it is a notable fact that there should be one hundred medical men joined together with the rest of the abstaining community to make war against the threatener. We assume at this moment

to exist only as a nucleus. We wish chiefly to exist that we may attach all others of the same profession to join with us. We would that every man who calls himself a healer were "stirring as the time," were "fire with fire," and that his example, so potent for good or evil, should be stamped for good in this great contest.

And this, I think, is indeed a point to win—even beyond the winnings of science through him—that, whenever a medical man is fairly and fully brought over from the fanatical superstition of this Juggernaut of civilisation, he is at once an example of examples to all around him. The example of the clergyman is, no doubt, of the greatest moment; but that, even, is not like the example set by the doctor. The clergyman is open to challenge from hour to hour, on the doctrine of necessity. He may urge all that he can on the moral side of the question; he may appeal in the most fervid and eloquent terms to the sympathies of his auditors; but when they approach him on the ground of necessity, when they say to him that they cannot exist without the aid of alcohol, when they, as intelligent persons, reason with him on scientific grounds, then they are, or may be, a match, or more than a match, for him. In like manner, the head of a family or of an establishment may declare his own views, set forth his own example, insist on his command being obeyed, and even enforce those commands; but he will have a diminished influence when he comes to close quarters in argument with those who are of the same standing and right as himself; while he is liable to be branded as a mere opined man, and a tyrannical man, by those who obey because they fear, and do not believe.

Moreover, there are times when all who may be staunch believers in total abstinence see cause for doubt in their own minds. Some one near to them, some one for whom they feel they hold a responsibility, declares that, in a pressing emergency, the stimulus of strong drink is necessary; and what is then to be done? How can the unlearned man deal, even with a drunkard, under such circumstances? He hesitates in the crisis; and gives way, it may be, to a good-natured impulse, which is as likely to be ruinous as it is likely to be useful in its after-effects.

But when the medical man is brought on the field he is in a different position altogether. It really is not necessary for him to enter on the moral side of the question at all. It is hardly necessary for him to appeal to any sympathetic argument. On that side of the Temperance question he finds the battle won for him. There is no one whose opinion is worth considering who doubts the morality of perfected temperance; no one who hesitates to admit that, under the absolute reign of temperance, poverty, crime, disease, would lessen, and happiness increase.

The medical man may, therefore, stand with effect purely on his own ground. He speaks with authority on the question of authority; he reads with precision the pleadings for the supposed sustaining agent, and detects without hesitation whether they be real or the mere unnecessary desires of a perverted and dis-tempered brain. How strong his position! in proportion, how solemn his duty! Other men may laugh, he cannot; other men may sigh, he need not. He is there the wise man, the arbiter who is educated to know, and who is referred to as knowing. Just a word from him in the right direction, how it may save those who are deceiving themselves, and, in that self-deception, deceiving others more determinately. If our society, as a nucleus, could get the whole of the profession to proceed with it so far, in the exercise of the legitimate influence of medicine, and no further, what an aid it should bring to the work of the great reformation that is in progress I need not tell to those who, with anxious minds and hearts, are watching the professional tone and sentiment for the slightest breath of its sympathy. The act of all medicine thrown into the scale of perfected temperance; the example, of which the poet speaks, thrown into the scale of perfected temperance! It is one of those aspirations so much to be hoped for; there seems to me no labour too great to realise it, no honest price too heavy to win it.

In estimating this success, we are bound, moreover, to look at it from the negative as well as the positive point of view. They say, in politics, that one vote gained is equal to two, because the winning side wins what the other side loses. In the contest on which we are engaged to win, one doctor is a far greater winning: because, if the influence of the physician or surgeon on our side be for good, the influence of but one against us is far more potent for evil. A doctor whose example turns the scale ever so little towards intemperance; a doctor who treats this question as a joke; the doctor, moreover, who devotes his energies to his calling of saving life, and who, with forty thousand of his fellow country folk dying yearly around him from one cause, and who, towards that cause, exhibits indifference or carelessness, or apathy,—what pretensions has he to be a healer? Where is his honour, to say no word of his feeling? Is it honour to swear fealty and not to obey? What if some other great cause of mortality—say of consumption—were at work, slaying its thousands annually, and that cause were as well known to him as this cause—would he towards that be equally indifferent? Would he hand it about, partake of it himself, give it to his children, laugh at those who are wearying to sweep it away, or tell the afflicted from it that it is a necessity? I am sure he would scorn to do any such thing.

As a society we want to bring these things home. We know they are not ignored intentionally, but we feel that they are ignored unintentionally; and we hope that, if they can be only canvassed fairly by our brethren, they will soon be recognised as truths deserving the choicest judgment. We offer no reflection on the past, for we admit that in the past there was a common error pervading medicine in relation to the physiological action of alcohol, a common blindness as to the pathological evils springing from it, and a common misunderstanding or ignorance as to the extent of the evils. We remember how in our pathological studies our masters indifferently noticed the lesions admittedly produced by alcohol as they were observed in the dead, while they devoted their energies to define with the utmost nicety the lesions which immediately caused death. I recall one of those devoted teachers, whose memory I shall ever cherish, who, at nearly every research in the dead-house, would end the most careful description of the conditions that were the actual cause of the fatal disease with, "Gentlemen, there are the usual known other lesions, with which I need not trouble you, because they come under the one head—whisky."

We admit all these past mistakes; we know how blind not we alone but all the world has been, and we come at present purely to review the past with the intention of improving the future; of asking if there be not some common ground on which we can all work, and, stirring with the time, be indeed "fire with fire."

There is much already that is in common amongst us, as a fraternity, in respect to the alcohol question. It is astonishing what we have gained in a few short years in the way of positive knowledge on the subject. How, having got into the natural lines of inquiry, we have, even in opposition to our prejudices, found one proof of action confirm and support other proofs. Fifteen years, or at most twenty years, ago the true physiological action of alcohol was a speculative discussion unsupported by any reliable experiment, and therefore of the most contradictory order. Now there is so much evidence of its mode of action that dispute gives way to accepted fact. That the ultimate action of alcohol in the animal temperature is to reduce the temperature; that alcohol relaxes organic muscular fibre; that alcohol produces four destructive physiological states of the body; that alcohol reduces oxidation; that alcohol interferes with natural dialysis; that alcohol induces, even taken in small quantities, a series of morbid changes and diseases which were not formerly attributed to it; that alcohol prepares the body for destruction by external shocks and depressions which are thus made more fatal; that alcohol belongs to the same class of chemical sub-

stances as chloroform, ether, and the anæsthetic family; all this is practically now on the accepted record, with the final admission, when we are speaking and thinking seriously, that man, like his lower earth-mates, and like his own children, can, in health, live and work and play as well—not to put a finer point on it—without a trace of alcohol as he can with it.

“I agree,” writes a medical friend to me,—a friend who will not go so far as to allow himself to belong to a totally abstaining society even of his own brethren—“I agree with you that the lower animals are better without alcohol. I agree that children and young people are better without alcohol. I candidly confess I do not know when a young person should begin to partake of it, or at what age of life any person who has never tasted of it should begin. I agree with the ancients, who had a law on the subject that the whole female sex would be vastly better without it, and that those women bring up the healthiest children who never touch it. I agree that a man in a good condition of health is better without it. I have been to see Carver shoot, and I am forced to the conclusion that a glass of wine would almost of a certainty spoil all his sport; nay, to please you, which is always a satisfaction, I will honestly state that I do not believe any man who trusted in the least to alcohol could do what Carver does, with such almost superhuman precision. I quite admit what you relate in one of your lectures, that in towns and communities of abstainers, like Johnsburg, health, comfort, happiness and wealth are all advanced far beyond what they would if the wine-god made his entrance there. All these confessions I make, but still I cannot join you.”

My friend is a representative, I believe, of nearly the whole profession of Medicine that thinks on this question seriously. Strange it is that with such advance of thought there should be so much of hesitation as to the logical course to pursue!

Another physician I could name has recently read Dr. Cheyne's well-known essay on “Health and Long Life,” published in 1725, and thereby he is sorely perplexed. Cheyne puts before this reader some curious arguments. Cheyne says, “that no man is afraid to forbear strong liquors in an acute distemper, what quantity soever he might have drunk in his health, and yet any sudden change in his humours would not only be more dangerous than at any other time, but also would more readily happen and come to pass in such critical cases. But,” he continues, “the matter of fact is false and groundless; for I have known and observed constant good effects from leaving off suddenly large quantities of wine, and flesh meats too, by those long accustomed to both, and never observed any ill consequences from it in any case whatsoever. Those whose constitutions

have been quite broken and running into dissolution, have lived longer and been less pained in sickness by so doing; and those who have had a fund in nature to last longer, have grown better, and attained their end by it."

This experience of a very wise old father of medicine perplexes my doubting modern friend the more, because, to the letter, it represents his own practice and his own experience. In all cases of acute disease he has, from custom, forbidden, as a first direction, wine and every other stimulant; and in most cases of disease of all kinds—liver cases, stomach cases, brain cases—he has followed the same plan. What is more, he has found it a good plan, and, as Cheyne says, he never has seen anything but ultimate good from it. And so he asks himself—if it be good to cut this agent off in disease because the body is diseased; and if it be true, as all seem by consent to declare, that in health the body does not require the agent, when does the body require it, even from the point of view of a doctor who, in spite of it all cannot join such a society as this?

Another of my brethren, who is, in like manner, in doubt, communicates his view in equally striking terms. He says, referring to one of my lectures: "The best service you, I think, ever made was in your pulling us all up on the question of the degree to which alcohol should be carried in its administration, and in insisting that it should never be carried beyond the first stage or degree of its action. I see" (he adds) "that one of the writers in the *Contemporary Review* repeats the same lesson, and lays it down as a rule that whenever alcohol is taken to the extent of doing more than causing flushing of the face, and a little excitation of the heart and brain, it has been given or taken in such sufficiency that to go further would be to go into danger. I entirely agree with this advice sometimes, my friend, but the difficulty with me lies in carrying it out in practice. How do I know what quantities of different wines or spirits to order for people of different ages and constitutions so as to produce just this effect and no more. The drinks are varying quantities, the drinkers more varying still. To carry out the rule, I must first make a physical analysis of every drink I prescribe, and then make a mental analysis of every person I prescribe for. This is absurd. Again, I find that the constitutions treated are like the movable feasts, never twice alike." If I can produce the precise tint of flushing to-day, in a man, by six ounces of sherry, or three ounces of the finest whisky—the Encore whisky, for example, which is said to be the purest—I am told in a week or two that the quantity had lost its effect, and that I must change the drink or give a little more. Then I shake in my shoes, lest by yielding I should encourage my patient to rely

on the drink, to increase it and become a tippler. So," he concludes, "the question, as I see it is surrounded with difficulties. The theory is perfect, the practice an impossibility. I do not want, certainly, to induce people to get into the second stage of alcoholism any more than you do, and would like to prescribe alcohol to cause a given effect, as I prescribe chloroform, chloral, mercury, iodide of potassium, or quinine; but the thing is not to be done unless, like you and your friends, I go over to total abstinence and use the good gift as if it were a mere drug; a step which, in my opinion, is just as intemperate as the intemperate misuse of the gift." It is very strange indeed to hear these reasonings, reasonings against reason; and yet I rather greet them. They are signs of an awakening conviction that at the bottom of the argument some fanatical sentiment, some ingrained looseness of principle, is felt and almost repented of. By standing steadily together, though we be but a hundred, we shall, I think, in time easily conquer such objections as these.

It is a fact, openly confessed by those who are not with us, that we are logical, and only too rigid in our method. So we are charged.

Let us not at the same time, in pride of logical status, contend that those who are not with us have no other arguments save of the kind above quoted. There are other arguments, and with one or two of the best of them I propose, in all candour, to deal for a few minutes of time.

There are some who say that if we are logically right, we are losing ground by insisting too forcibly even on our rightness. This is a world of give and take, and the wisest rules will be relaxed by the wisest men. The old author of the work on "Health and Long Life" helps his argument when he says, "The reflection is not more common than just that he who lives physically must live miserably." The truth is that too great nicety and exactness about every minute circumstance that may impair our health is such a yoke and slavery as no man of a free spirit would submit to. "'Tis," as a poet expresses it, "to die for fear of dying. On the other hand, to cut off our days by intemperance, to live miserably for the sake of gratifying a sweet tooth, is equally beneath the dignity of human nature." Well, we all admit this to be true, and we would relax our rigid rule about wine if we felt that to take off wine were "to die for fear of dying." Our contention is, that to leave it off is not to assume but to cast away a yoke and a slavery which no man of a free spirit would submit to. Our argument is that the wine drinkers are the yoke bearers, we the free men; and that their indulgence, in this instance, is beneath the dignity of their nature, while the casting off the yoke is for the happiness, not less than the health, of all mankind whom it affects, now and to come.

There are others who argue that the world itself is not prepared to receive the truth from the professors of medicine, even if the arguments against the use of alcohol were all accepted. They say that faith would be lost in them by their patients if the luxury were too hastily forbidden ; they insist that they could not live by practice expounding such extreme views, and they assure us that free will is one of the potent influences to be conciliated even in matters of life and death. I admit at once the speciousness of this argument. I have written an essay dealing on free will in relation to physic. I have a keen appreciation of the power of free will, but I still see one other side, perhaps two, even to this objection. First, if medical men were united, free will in the many against them would have little chance ; secondly, in this matter, if I mistake not the signs of the times, the tide of free will is going rather against them than with them in opposition to the use of alcohol. At all events if popular free will has not set up in full tide against alcohol, popular free doubt has, and that is next thing to it ; so that on this mere subject of expediency (and it is nothing else) our society has no need to do more than keep up its colours and stand by them triumphantly.

The idea that alcohol is necessary to enable men to perform extra mental or physical work has so utterly come to grief, it is really not necessary that I should put it forward, even as a remnant of superstition against us ; but it has been suggested, leaving the present ground of history altogether, giving up, in despair, all attempts to reply to those unanswerable modern proofs against the old fallacy, which Arctic explorers, men of great strength and physical skill, incessant minds, and the most laborious literary scholars so richly supply ; it has been suggested, I repeat, that, in some inscrutable manner, alcohol has been the feeding-mother of great nations, that it has sustained racial tenacities and vitalities, overcome mighty adversaries, and been, in short, both a herald and a conqueror on the side of civilisation. For our parts we, who dare to doubt this conclusion, want to know on what facts the conclusion is based. We are willing to learn, but we insist that those who preach must prove. Who can say what any great and mighty nation would have been to-day if wine had never been ? By what evidence can the destinies of nations in favour of a good destiny be traced through wine or strong drink. We can see some facts in history in relation to the effects of human acts plainly enough. We can see, for instance, that Constantine most probably destroyed the Roman Empire by moving the seat of government from its old basis to a new city that should be marked by his name. But where is there any corresponding fact bearing on great events and making of nations, wine being the factor ? Suppose we turn to some

facts, such as they are, in history, and they point circumstantially all the other way. Nations the mightiest have risen while they were abstaining nations; have fallen when wine became their luxury. Herodotus gives us the record of all-powerful Cyrus receiving from a small Ethiopian prince a bow, with this message: "Tell Cyrus that when he can bend this bow, which is mine, or find a Persian to do it, he may come and conquer Macrobia." And the historian relates, with evident satisfaction, that these Macrobian, who were the finest of men, so that they stood a head above the Persians, and were a truly noble race, were distinguished from the Persians in that they drank no fluid stronger than milk, while the Persians revelled in wine. There is yet another bit of evidence against a hypothesis of alcohol as the nursing-mother of great nations. Through all tribulations, through all vicissitudes, through all persecutions, what nation has maintained its vitality like the Jewish nation? Has alcohol been to this people a nursing-mother? Baron Haller, dealing with this topic in the last century, gave the secret of the cause of this vitality all in one word—*sobrietas*.

There is one other line of objection taken against our work which is the last I have space to refer to, but which is first in its bearing on our success. The objection relates to the possibility of successfully treating disease in some forms of it without the aid of alcohol. Opinion in the profession itself has greatly changed at various times on this subject, independently altogether of the subject of temperance. Before ever the Temperance question was dreamed of, medical men and schools of medical men were in conflict from time to time on the right and wrong of using alcohol in disease. The Greek and Roman physicians were moderate in their employment of wine. They used, it is true, various kinds of wine; they used salted wines; they used acid wines; and in many ways they used wines purely as medicines, not confounding the general with the special use at all, and, as a rule, proclaiming against their general use. The Middle Age physicians were almost as cautious as their predecessors, and although, after the time of Albucases, in the eleventh century, they became acquainted with the use of spirit of wine—ardent spirit—they do not seem to have employed the ardent spirit to any extent, if at all, for internal use in the treatment of disease. They used the spirit chiefly for tinctures and for dissolving resins and gums. After the time of Stahl the doctrine of the phlogistic theory, and of the antiphlogistic treatment of disease led to the all but abandonment of stimulants in the treatment of disease, so that during last century we had many illustrious physicians who, on theory, let stimulants stand aside; while some others joined in the objection to the use of those

agents from more general and, I had almost said, from more generous sentiments as to their danger to mankind. The illustrious Haller, Boerhave, Armstrong, and particularly Erasmus Darwin, were earnest in their support of what we now call the principles of temperance, and the illustrious representative of the name of Darwin to this day maintains the principle in unbroken line. Then, just about one hundred years ago, there occurred for a time a revulsion of feeling, owing to the attempted establishment in Edinburgh of what was called the Brunonian system of medicine, founded by one of the most erratic, generous, and unhappy men and classical scholars medicine ever possessed, John Benson Brown, who strove to institute a system of medicine based on the internal administration of stimulants and narcotics—chiefly wine, or rum, and opium. In his physiology he classed the stimulant and the narcotic together as stimuli, and held up the practice of their free administration as the all but universal cure. Disease was to him always a relaxation or loss of vital power, and the cure of disease was by and through the conserving elevating stimulant. In 1780, Brown was for a second time elected President of the old Medical Society of the Edinburgh University, and to such fury did debate run there that a law was passed for expelling students who challenged other students to mortal combat. Cullen, and all the leaders of the Edinburgh School, opposed Brown, who, in time, came to London, where he died, in his fifty-second year, of apoplexy, after having taken a large dose of opium, to which stimulant narcotic he was accustomed. That he exerted an influence in favour of the stimulating method of treating disease is without any doubt; it suggested a bad idea which ministered in its badness to one of the weaknesses of mankind, and he himself, no doubt, with all his genius, fell upon his own sword. In the early part of the present century the debate as to the value of wine in disease continued, the practice at least lapsing into a compromise, the rule of which still continuing I am myself able to remember. The rule was that, in acute disease, phlogistic disease, the remedies to be used were to be strictly antiphlogistic or depressing, by which rule all stimulants were rigorously excluded; but when the fury of the phlogistic attack had been subdued, and the sick man, by bleeding, tartar emetic, and purgatives, had been reduced to death's door, then it was the thing to bring him up again by gently pouring in wine or other stimulant with an improved dietary. In the profession of medicine these were halcyon days; for the people they were rather too systematic to be advantageous, and they met their end by the hand of Dr. Todd, who, seeing the evil done by the depressing system, and not the evil by the recruiting system, pushed his theories to the

extent, practically, of saying that all disease was depression of itself, and, therefore, required to be treated boldly, and, from the outset, with a stimulant. I, for my part, imbued in early life by the lessons of a venerable practitioner of medicine of the antiphlogistic school, was never led away by the enthusiasm of Todd, whom I knew very well, and who was always most kindly interested in my experimental work. But I have always felt that Todd did great service in dispelling the old dogma of the violent antiphlogistic line, and only erred in not stopping at that point. His revulsion back to Brunonianism was for a time, no doubt, a serious disaster; but the very mischiefs it wrought were, in the end, a gain to the cause of temperance. By exaggerating the tendencies of mankind to intemperance, it struck a note of alarm in the hearts of conscientious physicians, and made them anxious (as the eminent Dr. Fothergill in his later days expressed) whether, in curing the sick by wine, the physician might not be giving him the first lessons in fatal inebriation.

Since the time of Todd the tone of the profession has been one of conflict and sobering down, in these last days, to the idea that stimulants are only temporary necessities in disease, and that men in good health require none. The old antiphlogistic mania has departed, and its Brunonian sequence is following the same course.

With this improved mode of thought the profession, no doubt, is lending itself to the spirit of the age. What we want is that it should do more. Confessedly in the march of those simple and grand men who, in their noble simplicity and greatness of nature, led the way to the redemption of the drunkard from drink, the profession has lost the lead. We may regret this; but, as it is too true, regrets were vain. It has not, in this respect, been worse than its learned friends. The Church of all banners also lost the lead; the law has not yet moved in a single form of organisation into the ranks of the veterans. But, at last, the Church of all banners has taken up its place, and we are organised to go with it. Our aim now should be to cast off all things that so easily beset us, and step boldly into the van. We are held back mainly by one conservative feeling,—I do not say that in derision, for medicine, to be sound, must always be conservative; we are held back by the idea that alcohol is a necessity, not for health nor for the healthy, but for our work in the treatment of disease. We are none of us in this society out of sympathy with this sentiment, though it be but a sentiment. We all claim the right to use alcohol if, in our hearts, we believe we save life by it, save suffering, or lessen affliction. We merely contend—and this is the point we want our fellow-labourers to recognise—that it must be used *secundem artem*.

As a therapeutical agent, I have never excluded alcohol from my practice. But this is what I have done for nine years past : I have, whenever I thought I wanted its assistance, prescribed it purely as a chemical medicinal substance, in its pure form, in precise doses, in definite order of time ; as I have prescribed amyl nitrite, or chloroform, or ether, so I have prescribed alcohol.

By this method I have an absolute experience of the clinical use of alcohol, which, I think I may safely say, does not belong to many other prescribing physicians. There are thousands of physicians who, in the same time, have probably prescribed alcoholic fluids a hundred times to my single time ; but if they were to be asked the precise doses they have ordered, the actual purity of the substances they have ordered, they would be quite unable, in most cases, to answer at all. So many ounces of wine, so many ounces of brandy or whisky, really means nothing at all that is reliable. Therefore an absolute experience of alcohol, and that only, is a novelty. When I order alcohol, I prescribe so much of it as I think or know will produce the desired effect, directing the specific gravity of the fluid to be $\cdot 830$, which is not absolute alcohol, absolute alcohol being $\cdot 795$, but which is sufficiently near to be reliable. This is the alcohol commonly retailed as absolute alcohol, and is made without the expense and trouble of removing the last portion of water.

Used medicinally in this manner, the therapeutical action of alcohol may be soon reduced to a positive method. There is no ambiguity of action about it at all. It is as easily manageable as chloroform, and is as definite in result as mercury, or iodide of potassium. The differences of statements as to its influence in disease are, in fact, one and all due to the unscientific and utterly fallacious mode of ordering it as wine, or spirit, or beer, without regard to quantity, quality, or admixture ; for when it is ordered in that way the percentage of alcohol is unknown, the fact that there is no other alcohol save the ethylic is unproven, and the other disturbing agents that may be present, in the way of ethers and acids, are not calculated for, though they may be very important,

From the simple method and scientific course pursued, I may say that when alcohol is prescribed for the sick in a positive mode in relation to quantity, quality, and purity, so that nothing but the action of ethylic alcohol is brought under observation after the administration, the phenomena which follow are singularly corroborative of the physiological facts which have of late years been made known as to its action on healthy bodies. It is probable indeed that the influence of no other medicine in the pharmacopœia can be more correctly read by the light of physiological learning than alcohol. The chief difficulty that attends the administration for

securing positive results lies in the circumstance that so many persons have accustomed themselves to the use of it in varying quantities, there is no standard dose applicable to the community at large for ensuring the precise degree of action that may be desired. We are often in the same condition in respect to this drug as we are in respect to opium, when on rare occasions we have to treat a person who is addicted to the daily use of opium.

When, however, we have under treatment those who are not accustomed to alcohol the results are regular and decisive. Then the dose of half a fluid ounce, by measure, of .830 ethylic alcohol administered to an adult is, as a rule, sufficient to produce a brief temporary action. The action commences within ten minutes after the fluid is taken, and the first sign of its action is detectable in the circulation. The action of the heart is quickened, the rate of quickening being distinct even when the pulsation is previously quickened from disease. The rate of increase runs, as a rule, from five to seven pulsations per minute, and even in cases of permanently slow pulse the rule is maintained, as I found in the instance of a member of my own profession, who has a permanently slow pulse of thirty-five. With this rise in the pulse there follows the temporary elevation of surface warmth, and all the other signs and subsequent effects of that ephemeral fever from alcohol with which we are so well conversant; a fever which, in some respects, resembles a mild ague, and in other respects a hectic. By the use of alcohol in this pure form we learn with much accuracy its effects when it is administered in minor doses so as not to produce any objective effect; but it is presumed to conserve metamorphoses of tissue, or quicken local circulations. On the whole I am not inclined to deny the use of alcohol in this strictly scientific sense. I could do very well without it, since there are other substances which take its place that are less persistent in their effects, and are not so prone to create a constitutional appetite for themselves; but as a remedial agent of a third or fourth class value it deserves to be retained in the arcanum of physic.

I think I have shown now, in all that is present and practical, that there is a reason for the existence of this nucleus of abstaining medical men; that the nucleus has its work laid out; and that the affection and adhesion of other members of the same profession, of which it forms so small a part, is for all sakes a realisation to be hoped for and expected.

The illustrious Descartes, in one of his prophetic moods, ventured to predict that all the great movements of the world of thought, in physics, in morals, and even in government, would at some future day be evolved out of the medical sciences. It was natural for the founder of the Cartesian philosophy to pre-

dict in this wise. With him there were but two principles in nature—"I think, therefore, I am"—"and nothing exists but substances." The combination made up man, a spiritually materialised organism, who must, with his material surroundings, come, in course of time, more and more particularly under the cognizance of those who study the attributes and structure of man, and the effects of the external forces and materialities upon his existence, habits and character. To Descartes the social status of the Physician strengthened this conception. In his time there were no general rivalries of thought and learning to oppose the particular thought and learning of the strictly professional man. Between the philosophical scholars, and the commonalty there was a gulf which seemed to be impassable. The few learned were so distinct they held the whole province of knowledge, and when they spoke others did but wonder and listen; listen to René Cartes himself as to an oracle. Why should they change?

Had Descartes lived to this hour he would have seen that the gulf between the learned and the unlearned was anything but impassable, that it might be broad but was not too deep to be crossed successfully, and that the ultimate fate of the world was probably for it to cross *en masse* into the domain of learning, to settle there and make the domain as common property as ever was claimed by an overwhelming force that knew how to march and to conquer.

Perhaps, therefore, in this day the great metaphysicist might not be inclined to take the same sanguine view as that which he expressed so convincingly in his own day. He would see, with deep satisfaction, his theory of the extension of matter into infinitude brought, by such men as William Crookes, into experimental demonstration; but he would not see any particular sect of men belonging to medicine taking under their supervision the whole physical, metaphysical, and moral administration of the world. So far from seeing this, he would be a witness to a decline from any such commanding position. He would see all the learned professions bordering on a state of discontinuity. He would observe that men and women of all classes were beginning to know and think for themselves without the aid of any professional adviser, or, when calling in the aid of such adviser in great emergencies, being extremely inquisitive at the moment and extremely critical afterwards when the fruits of the advice, good bad or indifferent, were declared. More remarkable still, he would see in our modern civilised circles an universal educational life growing up amongst the young which, like hardy vegetation on good old soil, was threatening to uproot everything before it, and to establish a new face and destiny.

Stranger still would it be to the father of the Cartesian philosophy that in no point were his calculations so far out as on the point of the progress into power of his favoured professional community. He would see the grand interests of that profession poorly recognised; he would fail to discern that classical scholarship which was so distinctive a feature in the medical celebrities he knew; he would discover no exercise of political influence beyond what was held by the community in general; he would be pained to hear amongst the half-educated ruling classes not unfrequent remarks of disparagement as to the social and scientific distinction of his favoured brotherhood; he would witness with sadness and amazement the fact that, in deference to a whimsical folly of the age, some of the best men amongst the brotherhood were frittering away their lives at some contemptible little section of their noble craft, to which section they were mercilessly, piteously specialised: and, worst of all, he would gather that by this process of dividing, dividing, dividing, the whole body was, by wide-spreading, being brought into danger of utter disintegration.

And yet, gentlemen, there was after all nothing but what was natural and probable in the prophecy of Descartes. It is perfectly true that we, as a brotherhood, are or ought to be engaged in studies and pursuits so sublime and so intimately connected with every incident of this mortal life, that we should be in every sense a first power amongst mankind. So closely connected are our pursuits with the heart and soul of all that lives that if we had no ambitions, no passions, no desires, we ought by our very work to stand in the first ranks of mankind. Respect, profound and persistent, should be paid to our work if not to our workmen; and yet our best work is, as a rule, known only to ourselves.

At last, in this social position of our body politic and scientific,—a position not heartily accredited by men of pure science; not warmly admitted by the republic of letters; scarcely thought of by the artistic world, although our artistic working is of the most refined order; sometimes frowned at by the Church; resorted to by the masses as a necessity they would gladly avoid; and all the while keeping within our own sphere as if we had no connection with the outer world except by the practical tie of professional interest,—in this position, I repeat, we come at last face to face with one of the great revolutionary incidents in the present grand—surpassingly grand beyond anything of which we have any record—revolutionary epochs of human history: I mean the supreme effort which is now being made, with every prospect and certainty of ultimate success, to rid the world of the slavery of superstition, folly, sin, sorrow, madness and death that has for ages past been imposed upon the world by the use of alcoholic drinks.

Never in our course as a profession have we been brought face to face with the public in a more serious or solemn manner. We are brought face to face with the public on a question which it will have solved though it solve it independently of us altogether, and that a question which is singularly, and in the name of health, emphatically our own. The question is not whether man can live without the use of alcoholic drinks, but whether we can, by our voice and authority, justify the thoughtful section of the public in its attempt to prove that men can not only live without such aid, as the lower creation lives, but can live as healthily; whether men who have been accustomed to take stimulants until they have acquired a lower organisation than was meant for them can give up the habit with safety as well as advantage; and, lastly, if it ever be necessary that alcohol or some similar agent be positively called for in emergency, whether we, as men specially fitted for the task, cannot come to the assistance of the public, and by our skill meet their difficulty without encouraging a habit which is fraught with danger to the individual, and with endless suffering to the nation—to the world.

We who constitute this society are all of us men who, in the active exercise of professional duty, are living witnesses of the truth of the proposition that men engaged as we are can fulfil our allotted tasks without recourse to alcohol as a sustainer or a part of our life's feast. We join hands in this matter with the rest of the abstaining community, and we join with it in the belief that we perform our work more steadily, more cheerfully, more easily, more healthfully, than we did when we indulged in the factitious delusion and practice of seeking sustainment from alcohol. We extend from this experience our lines of observation and inference. We argue that, as we are no more and no less mortal than our even Christian, what we can do can be done also by any member of our profession. We, therefore, have a logical basis of argument, and can move heart and soul with those who strive to redeem the world from one of its worst slaveries. But, then, we are a mere isolation. Out of twenty thousand in the ranks of medicine we number a two-hundredth part, and the rest, what does it say, that voice of two hundred to one?

I will not indicate, at this moment, what the representatives of that great voice should say. I will only urge that the mode in which they could safely speak—safe, I mean, as a mode of inspiring reliance on their utterings by the public mind and conscience—is, that they should speak definitely, aye or no, to definite questions. When they are asked if alcoholic drinks are a necessity for healthy life, they ought to be able to say, with the proof on their lips, aye or no. When asked if the confirmed alcoholic, of any age, can give up his stimulant without injury,

they ought to be able to say as clearly, aye or no. When asked by an earnest man or woman, who wishes to reclaim either a single individual or a community, whether they can help in the emergency by meeting an assumed necessity, they ought to be able to say aye or no, with a precision of statement worthy of their learning and their vocation. We stand, all of us, on our mettle when these questions come forward to be answered. The public, that regards so little our politics, that cares so much less for our routine work, that ignores our finest triumphs of skill with so much stolidity, tests us here. These (say they) are the men who, of all others, ought to say definitely aye or no. Here is a great public question, essentially their own. Let us test them and try them. If they are not able to answer questions so simple and straightforward more distinctly than we are, what good are they? As to that two-hundredth part, they may be mere enthusiasts, and their saying may be prompted by their sympathies rather than by their reason; we want to know what the majority can satisfactorily tell us.

I do not overstate the matter in the least in these remarks. The profession of medicine has lost sufficient already by its attitude towards this vital, urgent question. Remaining as it does a few years longer, it will lose beyond recall the confidence it still retains; for time will yield the answer it ought to give without reference to its final judgment, if that judgment be long delayed.

With all respect, therefore, but all earnestness, we say to our brethren everywhere,—

“Be stirring as the time, be fire with fire,”

nor do we fear to add the corollary of the poet:—

“So shall inferior eyes,
Which gather their behaviours from the great,
Grow great by your example.”



THE BARK CURE.

By NORMAN KERR, M.D., F.L.S., *London.*

THE irresistible thirst for alcoholic drinks, to which the unhappy victims of the disease called dipsomania are subject, is so impetuous and so unquenchable as to have driven every one, interested in the cure of this terrible affliction, to constant effort to find a specific for the removal of this unsatiable craving.

It is true that, in most cases, the appetite for alcohol is acquired

and that if no one tasted alcoholic liquids there would be no longing for them ; but there are many who, from defective mental and moral stamina, consequent on the intemperance of their progenitors, have an hereditary predisposition to fall an easy prey to the most hopeless form of habitual intemperance.

For all such, a prophylactic, which would cause distaste and abhorrence for intoxicating drinks, would be invaluable, inasmuch as the moment such "weak brethren" partake of an intoxicant, that moment their doom is all but sealed, and they can be saved only, as it were, by a miracle. To the miserable beings who are in the pitiable position of slaves to the tyrant Alcohol, an antidote to the dire drink crave, which, as in the punishment of Tantalus, provokes the thirst it can never quench, would be a priceless boon.

Need we wonder, then, despite disappointment after disappointment, failure after failure, the search still goes unweariedly on for this "elixir" of temperance, this "philosopher's stone" of absolute safety from intemperance ?

Wonderful discoveries have been recorded. A learned professor of the healing art, not long since, announced that he could eradicate the craving for alcohol in a week by means of the Turkish bath. Happy thought ! The temperance societies would only have to establish Turkish baths all over the country, and induce drunkards to bathe in them daily for a week, and the pledge would be a work of supererogation.

Alas ! for the inebriate, this is but an Oriental dream, as unsubstantial and illusory as the mirage to a wearied wayfarer on an Eastern desert. No one can be fonder of the Turkish bath than I am, my only regret being that professional duties permit me but seldom to revel in its refreshing and reinvigorating charms ; but I rarely ever enjoy the luxury of this bath that I do not meet there many *bons vivants*, who resort thereto to whet their appetite for both eating and drinking. Before making a night of it, it is a common practice to take a Turkish bath, which is found to add a keener zest to the animal food and the alcohol of the evening banquet.

A distinguished member of the British legislature propounded last year a simpler, cheaper, and more valuable antidote to the drink crave, in the shape of cocoa. He believed that this most nutritious article of diet had the power of destroying the desire for strong drink, and he therefore looked upon cocoa houses as the truest Rescue Work.

Would that this roseate remedy were reliable ! But, unfortunately, it is not. I have known drunkards who were as fond of cocoa as I am myself ; and I have seen customers at our most successful coffee taverns, after plentiful draughts of cocoa, walk

straight into an adjoining public-house, and quaff an alcoholic beverage with undiminished gusto.

But what of the new antidote which is reported, in every newspaper we read, to be infallible in the cure of drunkenness? The glowing accounts of thousands of extraordinary cures of the worst form of dipsomania, in the United States of America, appear at first sight to indicate that in red cinchona bark there is, at last, presented to our view an effectual spell by which to charm away the unhallowed appetite.

But, notwithstanding the *éclat* with which the annunciation of this alleged potent specific has been heralded, its pretensions are baseless, and its promises as fallacious, as those of any of its predecessors. It is an old remedy, and generally proves ineffectual. So far from always destroying the relish for alcohol, I have known inveterate toppers take it daily for weeks together, in whisky, port wine, or some other liquor. And in a great Western city, when I was residing there a dozen years ago, the favourite morning dram, especially of the drunkard, was "Peruvian"—a drink composed of either quinine, or pale or red bark, and whisky. In nearly all the cases in which I have tried red bark, I have seen it exert no apparent influence on the desire for, and indulgence in, intoxicating drinks.

The truth is, that though all these so-called "certain cures" are utterly unreliable, and of little avail in the destruction of the drink crave, they are, every one of them, valuable adjuncts to the mental, moral, and medical treatment of the inebriate. The Turkish bath tends to soothe the inordinately excited brain and nerve-centres, and to induce a sleep more refreshing and infinitely less dangerous than the sleep produced by chloral or opium; while it strengthens the body, calms the perturbation of the mind, and reawakens the appetite for food. Than cocoa there is nothing better, for those who can digest it, to assuage the alcoholic thirst, and temporarily meet the frequent sinking of the enervated and worn out sot. Red, pale, and yellow cinchona barks, quinine, and other similar medicinal agents, are of great service in aiding to restore the broken tone and power of the shattered mental and physical constitution of the hapless dipsomaniac.

But these are not always even of temporary service. Very often every one of them fails in arresting, even for an hour, the uncontrollable abandonment to alcoholic indulgence. Though useful, they are not invariably reliable remedies for even transient improvement. That a sanitary application, however healthful—that an article of diet, however nourishing—and that a drug, however powerful—should fail, in the vast majority of instances, to prove of any avail in the rescue of the intemperate, is what every thoughtful and accurate scientific observer would expect.

Alcohol is a narcotic, as well as an irritant, poison. It paralyses the brain, deadens the nervous system, debilitates the will, weakens the moral power, and dims the intellect, while it alters the physical structure of the brain substance. Therefore,—even if the Turkish bath, or cocoa, or bark, could be, though they cannot be, depended upon to annihilate the craving for alcohol for a time,—these most valuable remedies would be practically useless, as a panacea for habitual intemperance, unless they could shake off the paralysis, reanimate the nerve-centres, strengthen the will, restore the moral power, dissipate the cloud over the intelligence, and reproduce healthy brain tissue.

It has been oracularly declared, with most wearisome reiteration, by the patrons of all such alleged specifics as “the red bark,” that there is no hope for the intemperate unless in their nostrum; but this groundless assertion has been happily falsified by the permanent reformation of large numbers. It was publicly said of the most illustrious trophy of the cause of temperance that he would inevitably, and continually, break down and relapse into intemperance if he did not frequently have resort to a physical antidote; but his graphic description of his terrible struggle is the narration of a battle fought with moral weapons alone. By the grace of God, through the exertion of his own moral power, the great modern magician of our hearts stands before the world a free man.

Drunkenness is at once a moral and a physical evil. While we must look to the will, however weakened, of the inebriate, for an effectual and a lasting cure, his physical system must be strengthened, his diseased condition of body treated, and his craving for alcohol at least lessened. To aid in the accomplishment of such desirable ends, we can usefully employ various medicinal remedies, various hygienic measures, and various modifications of diet.

No drug in the pharmacopœia is more useful, as an auxiliary to the moral treatment of the drunkard, than cinchona bark. Whether the red bark is preferable to the other varieties (the pale and the yellow) is doubtful. They are all invaluable. Their power for good lies in their tonic, nerve-stimulating, and anti-periodic qualities. Red cinchona bark (*Cinchona succirubra*) is a native of Ecuador, and is cultivated in Ceylon, Jamaica, Java, and, on a very extended scale, in British India. It is hardy, and is easily propagated, so that its growth in India has been marvellous. There are now nearly 3,000,000 trees in Sikkim, and the plants are equal to an annual yield of over 180 tons of dry *succirubra* bark. The red bark occurs in flat pieces and quills, the latter being the richer in alkaloids, and therefore the more potent. As the flat pieces are comparatively poor in the alkaloids, and very

rich in the red colouring matter (cinchona red), containing ten per cent., and as they have been found to be much less useful in the treatment of inebriety than the quills, it is clear that the anti-alcoholic virtues are to be attributed to the alkaloids; these forming the active principle. The chief of these alkaloids are quinine, forming more than a third of them; cinchonidine, forming about a fourth; cinchonine and quinidine; and these are all comparatively more abundant in the young than in the old bark.

When prescribed to the drunkard it is exceedingly undesirable to exhibit the red bark in the form of an alcoholic tincture. It is always risky to treat such patients with even weak alcoholic preparations; and the prescription of the practitioner in Chicago, as well as the *Liquor Cinchonæ* of the chemists, are both strong in spirit. The active constituents of the bark can be extracted by water, dilute acids, and, to some extent, by glycerine, though the last named extracts only a portion of the alkaloids.

My friend Mr. T. A. Clifford and I have made a series of experiments, to ascertain whether acidulated water is preferable to ordinary distilled water, for preparing an infusion or decoction of red cinchona bark, and whether an infusion or decoction is the better process. We considered it necessary, not only to find the amount of alkaloids dissolved in the case of both plain and acidulated infusion and decoction, and make a comparison between the two, but also to obtain the amount of alkaloids left in a dried and weighed quantity of the dregs; and from these data draw our conclusions, the one result in each case checking the other.

Infusions.—We made infusions of red cinchona bark as follows:—One ounce of finely powdered bark macerated in a pint of boiling distilled water for two hours.

No. I. was acidulated with five minims per ounce of dilute hydrochloric acid.

No. II. was made with boiling distilled water only.

Five ounces of No. I., concentrated by evaporation, was precipitated with caustic potash and shaken with chloroform in successive portions. The chloroform solution, evaporated after separation, yielded 1 grain of alkaloids. No. II.—Five ounces by same process yield $\cdot 75$ of a grain of alkaloids.

The dregs of No. I. were saved, and dried until they ceased to lose weight. Two hundred grains of these, taken and treated in the manner directed for an assay of red cinchona (*British Pharmacopœia*), yielded, on separation and evaporation of the chloroform, 1.5 grain of alkaloids. The dregs of No. II. were treated in the same manner. Two hundred grains of these yielded two grains of alkaloids.

From these data it appears that an acidulated infusion is better than one made with boiling distilled water only.

Decoctions.—Decoctions of red cinchona were made by boiling one ounce of powdered bark with one pint of distilled water. This was strained when cold, and distilled water was poured over the contents of the strainer until the product measured one pint.

No. III. The water was acidulated, prior to making the decoction, with five minims per ounce of dilute hydrochloric acid.

No. IV. was made with the distilled water only.

Five ounces of No. III., concentrated, and precipitated with caustic potash, shaken with chloroform, and chloroform solution evaporated, yielded 1.5 grain of alkaloids.

Five ounces of No. IV., treated in the same manner, yielded one grain of alkaloids.

The dregs of No. III., treated as in the case of the dregs of the infusions, yielded one grain of alkaloids from 200 grains. The dregs of No. IV. yielded 1.5 grain of alkaloids from 200 grains.

Since a larger yield of alkaloids has been obtained from the acidulated decoctions, and a smaller from the dregs than has been the case with the decoction made with distilled water only, we may conclude that, in the form of acidulated decoction, we have increased power, with less waste, than when water alone is used. And a comparison of the results of the two sets of experiments prove the superiority of the acidulated decoction over the acidulated infusion. The cinchona succirubra with which we worked yielded, by the process of the British Pharmacopœia, two per cent. of alkaloids.

The best mode of prescribing red cinchona is in decoction, which can be prepared as follows:—Add one ounce of the powdered bark to one pint of water, acidulated with 100 minims of dilute hydrochloric acid. Boil for ten minutes, and strain when cold. Pour water over the contents of the strainer till the product measures one pint. Of this give two ounces, or a wine glassful, every three hours, gradually diminishing the frequency and quantity of the dose after the first day, till in six or seven days it is reduced to a teaspoonful three times daily.

The most elegant preparation of the active principles of red cinchona is that which has been found so successful in India against the malarious fever, and known as “cinchona febrifuge.” It is made by exhausting the dry bark with successive portions of dilute hydrochloric acid, and precipitating the resulting liquor with excess of caustic soda. The precipitated alkaloids are collected on filters, washed, dried, and powdered. This product is then dissolved in a quantity of acid sufficient to take up the alkaloids, filtered from some insoluble colouring matter, and the solution again precipitated. After washing, drying and grinding, a fine white powder is obtained. It keeps well, though it is apt to

lose its whiteness, and is readily taken up by lemon juice (Wood, Yr. B. of Ph., 1878). Taken in lemon juice this is a pleasant drink, and is the most attractive form in which to exhibit the alkaloids of the red bark. "Cinchona febrifuge" is sold by the chemists in this country.

The powdered red bark itself may be prescribed in doses beginning with forty-eight grains, and gradually decreasing. Its taste is best concealed by milk, with which, however, it should not be mixed until immediately before being taken.

Bark may be given in the form of syrup (Cadet). Take of any variety of cinchona bark, bruised, 3 ozs., of sugar 1 lb. 4 ozs., and of distilled water 3 pints. Boil for half-an-hour in a covered vessel. Remove from the fire, set aside for a quarter of an hour, and then strain with expression. Filter, as soon as the liquid is quite cold; evaporate the filtered liquid with a gentle heat, to the consistence of a syrup, and finally strain. Neligan speaks very highly of this preparation. Dose to begin with, in treating dipsomania, a wine glassful, *i.e.* 2 ozs.

A very satisfactory preparation of the red bark has been made by Mr. Clifford and myself. We heated 4 ozs. of the powdered bark, over a water bath, with 8 ozs. of glycerine, for half an hour. The following morning we added to this 1 quart of distilled water. The whole was strained, pressed, and filtered, and the filtered liquid allowed to deposit. The marc was boiled with successive portions of distilled water. These were strained, pressed, and filtered, and the filtered liquid allowed to deposit. The clear supernatant fluid from each portion was added together, and set apart. The different deposits were then added together, and treated with a pint of distilled water. This was also allowed to deposit. The clear supernatant fluid from this was decanted, and added to the previous clear fluid; and the whole liquid evaporated to 8 ozs., the original bulk of the glycerine. We think it probable that if acidulated water had been used, instead of ordinary distilled water, a still better result might have been obtained. As it was, the preparation, on dilution, did not deposit, which is the general drawback to concentrations of cinchona principles.

Quinine alone, with infusion of orange, is often very useful in aiding to allay the drink crave. All the benefit that can be derived from quinine will be obtained from repeated doses of three grains.

Mr. Moseley has been the means of greatly helping inveterate drunkards to subdue the craving for alcohol, by a non-spirituous combination of red bark, chiretta, and a hot general stimulant.

There are many inebriates, intemperate cabmen for example, who cannot get on without some very fiery and biting substitute

for the very ardent drinks they were wont to indulge in. For all such, capsicum is invaluable.

For those who do not crave for so fiery liquids, warm coffee, milk, and cocoa are a wonderful assistance. A cup of hot Liebig's extract of meat, or some good nourishing soup, is also of great service. Infusion of quassia and gentian, and iron with calumba, are frequently most useful ; and, in some cases, sips of iced lemon water allay the unnatural thirst better than anything else. But the most reliable temporary alleviation of the alcoholic craving that I have ever witnessed has followed the employment of a full emetic dose of ipecacuanha.

Such are a few of the medicinal and dietetic agents which tend to lessen the overpowering craving for intoxicants, to which the confirmed inebriate is subject. Such hygienic measures as cold bathing, the Turkish bath, and moderate exercise, are also of much value. But there must be no absolute reliance on such aids, valuable as they all are. The moral treatment of the dipsomaniac is of infinitely more importance than the physical, though the latter cannot safely be dispensed with. To whatever of will may be left to the victim of strong drink—and very often, alas, there seems none at all remaining—we must look for true reformation and a permanent cure. If all moral power have vanished, and every spark of mental energy fled, the only thing left is to forcibly keep the miserable wreck of humanity where no alcohol is ; but as long as reason, however dimmed, survives, and conscience, however seared, lingers, there is hope for the least hopeful, and the prospect of a happy future for the most despairing. No charmed potion will ever slay the dragon of dipsomania, no potent talisman will ever have power to exorcise the demon of the drink crave ; but wise medicinal, dietetic, and hygienic measures will strengthen the hands of the good Samaritans who undertake the treatment of the fallen through drink, while reviving the drooping spirits, and cheering the fainting hearts, of those whom the arch robber, Alcohol, has left to die by the wayside.



THE HABITUAL DRUNKARDS ACT.

To the late Dr Donald Dalrymple must be ascribed the credit of first essaying to induce Parliament to sanction the employment of compulsion in dealing with habitual drunkards. The philanthropic member for Bath died soon after the parliamentary committee, which he had been mainly instrumental in procuring, issued their report. The agitation flagged till, in September,

1876, the Society for Promoting Legislation for the Control and Cure of Habitual Drunkards was formed, with Lord Shaftesbury as president. Ably seconded by several members of the legal profession, the Association has been carried on principally by medical men, amongst these being Dr. Alfred Carpenter, Dr. Richardson, Mr. Holthouse, Mr. Wood, Dr. Vinen, and the honorary secretaries, Mr. Alford and Dr. Norman Kerr. Total abstinence is well represented on the official staff, several members of the executive being abstainers. A Bill was drafted by the Association and introduced into the House of Commons last session by Dr. Cameron. It was cordially received and met with unanimous support till, at the eleventh hour, it was delayed on a side issue. The Bill was again brought forward this year, and, under the able guidance of Dr. Cameron in the Commons and Earl Shaftesbury in the Lords, has passed both Houses and is now an Act of Parliament. The compulsory clauses having been withdrawn, it is simply a measure for those who voluntarily wish to enter "retreats."

It is entitled, "An Act to facilitate the Control and Cure of Habitual Drunkards," and comes into operation on 1st January, 1880. The Act is to continue in force for ten years, and extends over the United Kingdom.

Provision is made for the licensing of "retreats" for periods not exceeding thirteen months, for the transfer of licenses in case of death, and for the efficient inspection of all such establishments.

Dipsomaniacs may be admitted to "retreats" on their own application. Any habitual drunkards desirous of obtaining admission, must apply in writing to the licensee of the "retreat," and state the time the applicants undertake to remain there. This application must be accompanied by the statutory declaration of two persons, to the effect that the applicant is an habitual drunkard, within the meaning of the Act. The signature of the applicant has to be attested by two justices of the peace, who shall have satisfied themselves that he is an habitual drunkard, and shall have explained to him the effect of his application for admission to a "retreat," and his reception therein. It is the duty of these justices to attest that the applicant understood the effect both of his application and admission.

The dipsomaniac, once having thus deliberately signed away his freedom, is not entitled to leave the "retreat," unless by special permission of a magistrate, till the expiry of the term mentioned in the application for admission; and may be detained till the expiration of the specified term, provided it do not exceed twelve months.

Notice of the reception of every inmate must be forwarded to the local authority within two days.

An habitual drunkard is defined as a person who, not being amenable to any jurisdiction in lunacy, is, notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself, or herself, or to others, or incapable of managing himself or herself, and his or her affairs.

By a "retreat" is meant a house licensed under the Act, for the reception, control, care, and curative treatment of habitual drunkards.

A stamp duty of £5 is imposed on each license, with ten shillings for every patient above ten, whom it is intended to admit to one retreat; and every renewal of a license is to bear a similar stamp. These fees are to be available for the payment of the salaries of Inspectors, who are bound to inspect each "retreat" at least twice a year.

The liberty of the subject is still further guarded by the Secretary of State having power, on the recommendation of an Inspector, or in his own discretion, to order the discharge of any person detained in any "retreat." Judges have also the power to authorise any persons to visit and examine any inmate, and to order his or her immediate discharge.

Justices may grant leave of absence to inmates, and regulations are laid down for the forfeiture of the leave of absence of any inmate who cannot be restrained from drinking, or who escapes.

Stringent penalties are enacted for any breach of the Act by licensees and their servants; and "prohibition," within the retreats, is secured by the proviso that it shall be illegal for any person, without the authority of the licensee or medical officer, to give or supply, except in urgent necessity, to any inmate, "any intoxicating liquor, or sedative narcotic, or stimulant drug or preparation."

Powers are given for the apprehension of any escaped inmate, and for his punishment and renewed confinement.

Such are the leading provisions of this latest addition to Temperance legislation. It is a Bill only for those who can afford to pay for their treatment in retreats; the original clauses in the Bill, providing for the establishment of free institutions, having been abandoned to secure its passage through Parliament. At the same time, there is nothing in the Act to hinder any benevolent association from opening retreats, where the inebriate and needy may be received and their cure attempted free of charge. The Church of England Temperance Society might supplement the labours of their agents at the metropolitan police courts by the institution of an establishment where the confirmed drunkards, who have taken the pledge at the courts, and been willing to undergo the year's restraint, may be tended and watched over

by loving and Christian hands. A few months' seclusion, freed from the temptations of the traffic and the drinking customs, might strengthen their enfeebled will, and would, at all events, afford them an excellent opportunity of making a fresh start in life.

As advocates for total abstinence, we prefer to labour for the prevention rather than for the cure of the intemperate; but, without pronouncing an opinion on the principle of the Bill, we cannot withhold our sympathy from those earnest philanthropists who have laboured so zealously and so successfully for its enactment. The Act recognises the necessity for enforcing total abstinence in the reformation of the intemperate, and would have had little chance of so speedy a passage through the legislature, had it not been for the deep and widespread interest that has, of recent years, been effectually aroused by the unremitting efforts of thoroughgoing temperance reformers. We will watch the operation of the Act with deep interest, and trust it will more than realise the fondest hopes of its most ardent supporters.



BRITISH MEDICAL TEMPERANCE ASSOCIATION.

WITH mingled feelings of thankfulness and pleasure, do we, in this issue, record at length the remarkable proceedings at the third anniversary meetings of the British Medical Temperance Association. For some three years this Association has been, as it were, struggling for existence, though within its limited numbers were medical men who had counted the cost, and were not ashamed to avow their total abstinence principles, however few of the medical profession might associate with them in their gallant stand. All honour to them.

But, in a happy hour, these medical temperance pioneers were inspired with the thought that, if the illustrious physiologist—to whose original researches on the alcohols we are to this day indebted for our most accurate knowledge of their composition, general action, and influence on the temperature of the body—could be persuaded to accept the post of president, his name and reputation in the world of science and of literature would greatly advance the interests of the society. Dr. Richardson was, accordingly, asked, and he consented to occupy the presidential chair.

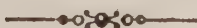
The result has far exceeded the expectations of the Association; for, since Dr. Richardson was chosen president, there has been an accession of more than seventy new members. No

longer a select few, the society now numbers in its membership 106 abstaining medical practitioners.

Nor is this all. Dr. Richardson's inaugural Address, which was listened to by an influential company at the Medical Society of London's rooms, has been well noticed by the medical and lay press throughout the country; and a copy of this Address, by the generous aid of a few devoted friends of our cause, is, with an enclosed form of application for membership, being sent to every medical man in the United Kingdom. We trust that this wise and wide circulation of Dr. Richardson's persuasive words will, at least, double the membership of the Association.

And yet there is more to note. What no one ever heard of, what few conceived possible within the compass of this generation, has actually taken place. A teetotal dinner of medical men at a fashionable hotel, the company very much larger than is wont to assemble at the bidding of our oldest medical societies, is *un fait accompli*. The distinction of the guests, the elegance of the dinner, the richness and variety of the beverages (these being so profuse that no less than three kinds of really good unfermented wine were on the table), and the character of the speaking, could not easily be surpassed. That we do not exaggerate the importance of the proceedings of this eventful day, will be evident from the fact that all the London daily newspapers gave excellent reports, that the press all over the kingdom did so too, and that leading articles appeared in the *Times*, in the *Daily Telegraph*, and in a great many of the most influential English, Irish, and Scottish newspapers.

The British Medical Temperance Association has a great future before it. The fact that there are over 100 medical men united together by the bond of total abstinence, thereby proclaiming their abstinence to their own profession and to the world, is the most effectual reply to the recent attack on our movement by the medical contributors to the *Contemporary Review*. The Association is, we understand, arranging for holding scientific meetings, and for adopting every possible means of winning converts from the ranks of the great profession of medicine; and we feel assured that the great step in advance it has just taken will, under the guidance of the distinguished man of science who presides over its deliberations, be the inauguration of a long and honourable career of usefulness. The British Medical Temperance Association has, in a day, become one of the recognised medical societies in the kingdom; and the auspicious meetings it is our pleasing duty to comment on now are, we doubt not, the hopeful presage of an uninterrupted succession of victories to come.



Miscellaneous Communications.

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BRITISH MEDICAL TEMPERANCE ASSOCIATION.

THE proceedings in connection with the third anniversary of this Association were commenced with the Council meeting, which was held by permission in the rooms of the Medical Society of London, Chandos Street, W., on Friday afternoon, May 30. Dr. James Edmunds, as President, took the chair.

Dr. J. J. RIDGE, the Hon. Secretary, read the Report, which stated that during the year there had been a large accession of members. They commenced the year with thirty-eight members, and during its currency there had been an addition of fifty-three others, making a total of ninety-one. None of the members had died during the year, nor had one resigned. There were many abstaining medical men not yet enrolled, and the members were urged to use their influence to induce them to become so. Several medical students had joined the Society as associates, and undertaken to promote the work of the Association in the metropolitan schools of medicine to which they were attached. It was proposed to hold a meeting with them at the commencement of the next winter sessions. Cordial thanks were awarded to Dr. James Edmunds for his three years' occupation of the presidential chair, and for his able guidance of the Association and constant devotion to its interests during the critical period of its infancy. Both the Association and the Temperance cause owed much to him for his advocacy of total abstinence at a time when its unpopularity was greater than at present. He was succeeded in his office by Dr. Richardson, but had consented to become a vice-president. After a reference to the literary labours of the members, chiefly in the pages of the *Medical Temperance Journal*, Dr. Ridge closed the Report

and took up the balance-sheet, which showed an income of £16 10s. 6d. from subscriptions, and, adding the balance from last year, the total income was £37 11s. 11d. The year ended with a balance in hand of £30 11s. 7d.

THE PRESIDENT moved the adoption of the Report, and said he was glad a new president had been elected, because no one ought to hold the office more than three years.

Mr. HENRY LANKESTER, M.R.C.S., seconded the motion, and said it was long since his town of Leicester had seen three medical abstainers; but that was the fact there now.

The motion was carried, and, the other routine business having been transacted, Dr. Edmunds left the presidential chair, and installed his successor.

Dr. RICHARDSON: I am very much honoured by being elected to this office, although I fear I am a very unworthy representative of the cause you have at heart. I was very late in the field in recognising the great truths by which you have been influenced. I have always been happy to say, and I do so now, that your late President, Dr. Edmunds, who has taken a very active part in your Society, and whom you have so cordially and so deservedly thanked, was many years in advance of me in the advocacy of total abstinence on a scientific basis, and you have been fortunate in securing his services during the time when the society had almost to struggle to maintain its existence. My part has been simply that of an experimental investigator, coming into the cause of total abstinence by the process of experiment. I have never sought to put myself prominently forward as an advocate of total abstinence, but I have been forced

to speak from the evidence which I have been able to collect; and I trust, during the year of office which I shall have the honour to hold as President, those great truths which we are convinced of, and we know will ultimately have a permanent and widespread influence throughout the land—I trust during that time, through the teachings of medicine, and for the credit of it, that our great cause may, through it, make further progress. I thank you once again for your kindness in electing me to this office.

After a short interval, Dr. RICHARDSON read his inaugural address.

Dr. NORMAN KERR moved:—"That the thanks of this meeting be accorded to the President, Dr. B. W. Richardson, F.R.S., for his most able, learned, and eloquent address; and that he be requested to allow it to be published with a view to a copy being sent to every medical practitioner in the United Kingdom." He said that the accession of Dr. Richardson to the presidential chair marked an epoch in the medical history of the Temperance movement, and upon the Association it would, without doubt, have a marked influence. Within the last few weeks no fewer than forty-five new members had joined the Association. He hoped Dr. Richardson would allow the Association to print his valuable address, and send a copy of it to every member of the profession. It would cost about £100 to do this, towards which he was happy to announce a subscription list already of £60.

Mr. HENRY DIXON, M.R.C.S., said that as a very old friend of this movement—(hear, hear)—he seconded the resolution with very great pleasure.

The PRESIDENT, in returning thanks, said his paper was at the disposal of the Association for the purpose indicated, though seeing the influential circle to which it was to be sent, he would take the liberty of making a few additions to it.

The proceedings then closed.

THE DINNER.

The members then walked across the street to the Langham Hotel,

where the dinner was to take place. Eighty-six guests sat down, amongst whom were the President, Lord Denman, Sir Wilfrid Lawson, Bart., M.P., Samuel Morley, Esq., M.P., M. R. Dalway, Esq., M.P., George Palmer, Esq., M.P., J. B. Gough, Esq., T. Woolner, R.A., Admiral Baillie Hamilton, Dr. J. H. Gladstone, F.R.S., Dr. Braxton Hicks, F.R.S., Dr. Hardwicke (Coroner for Central Middlesex), Dr. Cholmondley, Dr. Eastes, F.R.C.S., Dr. Norman Kerr, F.L.S., Surgeon-Major Poole, Dr. Edmunds, Dr. Ridge, Dr. H. W. Williams, Dr. Morton, Dr. Dewar, Harrison Branthwaite, Esq., F.R.C.S., Dr. Russell (Messingham), Henry Lankester, Esq., M.R.C.S. (Leicester), Henry Dixon, Esq., M.R.C.S. (Coroner for South Oxon), J. Langston, Esq., J.P., F.R.S.E. (Stroud), W. A. S. Royds, Esq., M.R.C.S. (Reading), Sydney L. Smith, Esq., M.R.C.S., R. Paramore, Esq., M.R.C.S., T. A. Clifford, Esq., T. H. Barker, Esq. (United Kingdom Alliance), Robert Rae, Esq. (National Temperance League), Rev. J. H. Potter, M.A. (Church of England Temperance Society), W. Fooks, Esq., LL.B., Frank Debenham, Esq., and a large number of ladies.

Of course no intoxicating drinks were provided, but the company were invited to partake of the following beverages:—Johnson's zoedone, Belben's cyderine, Harriot's sparkling and orange bine, Bell's unfermented wines, Wright's unfermented wine and fruit essences, Meyerheim's unfermented wines, the National Temperance Beverage Company's non-alcoholic champagne, aërated and fruit drinks, Larmuth's aërated drinks and hopade, Cockrell and Cantrell's ginger ale, Russian tea (tschai), café noir.

After dinner the PRESIDENT (Dr. Richardson) proposed the sentiment of the "Queen and Royal Family."

The PRESIDENT proposed the sentiment of the "Houses of Parliament," coupling with it the names of Lord Denman and Sir Wilfrid Lawson. Speaking of Sir Wilfrid the President said: As the representative of the House of Commons, we have with us that staunch champion, that soul of

wit and humour, who never says anything but what is good, and never says anything that is hard or distasteful.

LORD DENMAN said he was in favour of progressive changes in this matter, such as will be sustained by public opinion. He concluded by referring to fire-water and the Zulu War.

SIR WILFRID LAWSON, in responding for the House of Commons, said: I think that the House of Commons, with all its faults, has one great merit. I believe it is almost the only place in the world where both sides of a question can be fairly heard; where men will sit down and hear their opponents state doctrines and principles to which they are entirely opposed. I see often that when this is attempted in foreign assemblies there is a row, and the speaker has great difficulty in being heard; but my friend Mr. Morley will bear me out that when he and I bring forward unpopular measures we are heard with the greatest patience. When I get up in the House of Commons to propose any restriction on the sale or consumption of drink, I not unnaturally have very great forces opposed to me. There are many hon. members returned by people outside who have an interest in persuading their neighbours to purchase and to consume drink, and that is the great power against which we have to contend, and against which we shall never contend successfully until the people out of doors are sufficiently enlightened to get rid of this power which rules over them. I am very glad that the doctors are coming to our assistance. Just allow me to vindicate the doctors, because I think they have had scant justice done to them. You have heard of the Lords' Committee on Intemperance. Well, several of our most eminent doctors gave invaluable evidence before that committee, and this was what was said about them in the report:—"It does not appear that there is any theory as to the physiological properties, or as to the dietetic or medicinal value of alcohol, which is as yet so generally accepted by the medical profession as would warrant its being adopted as a basis of legisla-

tion." Soon after the report appeared I was glad to see that one of your most widely-known papers, the *Lancet*, wrote as follows:—"This is scarcely respectful to the medical witnesses. We think the public will endorse the criticism. The paragraph as it stands certainly fails to give any idea of the strong evidence adduced against the use of alcohol." That is very satisfactory, and I hope the doctors will take care that their views are really made known to the public, and will make their voices heard, because science ought to be only the handmaid of truth, and it cannot be more usefully employed than in clearing the way for the spread of that great truth which tells us that all this notion about alcohol being useful and beneficial to the human race is a very great and a very mischievous delusion. I thank the President and the Council for having done me the honour of inviting me to come here, and I wish them God-speed in their efforts to destroy this delusion, which is discreditable to the upper classes, most disastrous to the working classes, and, I may add, generally dangerous to the permanent interest and welfare of this country.

THE PRESIDENT then proposed "The Clergy of all Denominations," and in doing so spoke of the happy union of feeling which was becoming stronger and more general every day between the clergy of all denominations and the medical profession, in furthering this great movement. In the cause of Temperance, indeed, they had found that common basis in which they were both deeply interested. On one occasion he seconded a resolution which had been proposed by a cardinal of the Roman Catholic Church, and which was subsequently spoken to by a canon of the Church of England and a representative of the great Dissenting bodies. The more this sort of union was cemented, and the more the clergy of all denominations and the medical profession found common ground on which to work, the better would it be for themselves and for the world. As there was but one science, so, after all, there was but one Church.

It afforded him peculiar pleasure to couple with this sentiment the name of Canon Duckworth.

CANON DUCKWORTH said: I rejoice from the bottom of my heart that a cause has been found in which the two professions can work hand in hand. Hardly a day passes but it is my good fortune to see what excellent results spring from this mutual co-operation in the great cause of Temperance. Your own "Temperance Lesson Book," Mr. President, has put into the hands of the clergy and ministers of all denominations one of the most powerful weapons with which their work is being done amongst the young. I have put several copies of that work into the hands of the choristers of Westminster Abbey, and have offered two prizes to those who come most successfully through the examination which I shall conduct upon it. At your bidding I return thanks for the ministers of all denominations. For the clergy of the Church of England I can chiefly speak, and I can ask you to rejoice with me in the waking up of that Church during the last few years to her great responsibility in this matter. It is now notorious to all that her great organisation is being utilised for this splendid purpose, and throughout the length and breadth of the land branches of the Church of England Temperance Society are being founded in our parishes, and the clergy are coming in one by one, and recognising their duty in this matter. I know that the time is not far distant when this course will be recognised as one which ought to stand in the forefront of the Church's work. Only a few years ago one of the most distinguished bishops snuffed out the Temperance question when brought up by one of his leading clergy at his diocesan synod. Such a thing is inconceivable in the present day. The Temperance question is one which stands upon the programme of every synod and conference in every diocese in the land. We have at the head of our society our two primates, and can now name no fewer than four bishops who are total abstainers. There is a subject

upon which I should like to offer one other remark, and that is grocers' licenses. Lord Aberdare the other day, at the Lambeth Palace meeting, said there was an inappreciable measure of intemperance due to such licenses. The statistics of intoxication, he said, were confined to the lowest of the population, and not to the class that found their means of intoxication at the grocer's. I think I may say that the doctors and the clergy are those who can give satisfactory evidence on this point. They are those who are able to judge of the magnitude of the evil in a way that no other class of witnesses can, for they are behind the scenes, and can testify that these grocers' licenses are effecting an amount of mischief among women of the middle and lower middle classes which it is impossible to exaggerate.

THE CHAIRMAN then proposed "The Army, Navy, and Reserve Forces."

Admiral BAILLIE-HAMILTON responded for the Navy, and dwelt upon the importance of temperance in the management of the different classes of vessels which now constitute the British Navy. He would very much like to see the grog ration abolished, and one of tea given instead. This was the case in the American Navy, and in a very large portion of the merchant fleet. The wonderful discipline maintained in the latter, where the commanders had not the Articles of War to fall back upon, did the merchant fleet infinite honour. He believed an example thus nobly set must sooner or later be followed in Her Majesty's Service.

Surgeon-Major POOLE, in responding for the Army, said the number of temperance societies was increasing, and as a natural consequence the number of abstainers. He was lately speaking to a man of the 70th Regiment, who had just come from Candahar, who told him that three-fourths of the men were teetotalers.

The PRESIDENT, in proposing "the sentiment of the evening," viz., "The British Medical Temperance Association," said it had already been useful in bringing the abstaining members of

the profession together. Happily the year closed with a much larger number of members than it commenced with, and they expected soon to double and even to treble the number. Besides the actual members they hoped to influence those who did not join them, partly by the influence of their daily lives as abstainers, partly by meetings, partly through the press, and partly by such reunions as the present, where it could be demonstrated that good fellowship and sociability could prevail without the presence of any intoxicating cup or draught. These being their objects, he had nothing more to do than to ask all present to join with him in wishing continued success and influence to the British Medical Temperance Association.

Dr. EDMUNDS proposed "The Bench and the Bar," to which Mr. Fooks, LL.B., responded.

Dr. KERR, in proposing "The Medical Corporations and Societies," said that the advent of Dr. Richardson as president had been signalised by the addition of over fifty members to the Association. The address read to-day was, by the president's kind permission to be circulated amongst the entire profession. In regard to the present "sentiment," one object of this dinner was to show the medical corporations and societies how they might hold their annual festivals without the presence of the "alcoholic disturber." It appeared to him that these corporations and societies would do an essential service to the temperance cause and to humanity at large if they dined in a manner similar to this, and refused all patronage to that which was so destructive to the race. In conclusion he had to read a telegram, dated from Ventnor, which had been received from their valued friend, Dr. A. Carpenter, President of the Council of the British Medical Association: "Too ill to attend. Congratulate you on your meeting, and regret my absence. Feel assured that the British Medical Association is awake to the necessity of thought, and that medical men are more accustomed to think twice before ordering alcohol than they used to do.

Wish good luck and prosperity to your Association. You are doing good work in spite of the outcry against you by interested parties."

Dr. EASTE (of the Royal College of Surgeons) replied, and said it was really the family physician who saw the evil of drink. He was sure that doctors were ordering alcohol less and less every year, and one result of this was that abstinence principles were steadily gaining ground. Personally, he had been called upon to furnish a brief report to a medical society of the various certificates of adult death which he had given for the last few years. He found there were forty-one deaths which came within the list he was required to furnish, and out of these certainly ten were partly or wholly due to excessive drinking. If his practice were the same as that of others—and he had no reason to believe it differed—twenty-five per cent. of grown people died partly or wholly in consequence of excessive drinking, and this would make it apparent how dreadful was the evil, and how urgent it was that they should all put their shoulders to the wheel and try to remove it.

Dr. RIDGE, in proposing "Science, Art, and Literature," paid a graceful tribute to the memory of the late George Cruikshank.

Dr. GLADSTONE responded, and observed that it was a kind and unselfish thing of medical men to wish the health of anybody. The idea was becoming fixed in the public mind that there was no nutrition in alcohol, and happily it was being sustained and fostered by the researches of science. Happily, also, chemists were able to find other compounds to replace alcohol. Alcohol was a powerful weapon; but, like many others, it had a terrible recoil. He would, therefore, beg the medical profession to bear in mind that in alcohol they were using a very dangerous weapon, and that those upon whom they were employing it were not the strongest, but generally the feeblest of the human race. In conclusion, he wished to say that the London School Board offered prizes

for punctual attendance, and gave those entitled to them the choice of certain books. No fewer than eighty-eight boys and girls had chosen the president's "Temperance Lesson Book" as their rewards.

Dr. RUSSELL next proposed "The Visitors."

Mr. J. B. GOUGH said that this was the first public dinner he had attended, but he was very pleased indeed that on the table there was nothing that could intoxicate. It was satisfactory to know that alcohol was being gradually banished from the festive board, but it would be a very difficult thing to do so entirely for some time yet to come. Still he thoroughly believed that the annihilation of the drinking customs would come as surely as the annihilation of the slave trade all over the world where the Anglo-Saxon tongue was spoken.

Mr. SAMUEL MORLEY, M.P., said that this day would give a great start to the temperance movement. He had long been of the opinion he ventured to express here, that the medical profession owed abstainers something in connection with temperance, and that they had a right to call upon those who were becoming very much inclined to doubt their former method of dealing with alcohol, to undo the mischief that had been done, and to help them with their testimony in the future. He had known cases where immense mischief had been done—mischief which had been recognised by subsequent investigation. He knew many eminent medical men in London who were agreed as to the undesirability of such advice, and their opinions were expressed in such a way as led him to hope that they would be even more distinct in the assistance they gave. He had greatly admired the courage of Dr. Richardson in this matter, and felt sure he would succeed in winning over to his side a very large accession of strength from the members of the body of which he was so distinguished an ornament. Mr. Morley concluded by proposing "The President."

Dr. RICHARDSON responded, and with the sentiment of "The Ladies,"

the proceedings were brought to a happy close, shortly after eleven o'clock.

THE BEVERAGES.

BY A MEDICAL CONNOISSEUR.

Everyone was struck with the variety and attractiveness of the liquids at the dinner at the "Langham." By universal consent the palm was awarded to zoedone, a sparkling, delicious, exhilarating drink, containing phosphates and iron, and an excellent brain and nerve tonic. The patentee is Mr. David Johnson, F.C.S., and the manufacturers are Evans and Co., Wrexham. Ice is a great improvement to zoedone, as it is to cyderine, the aerated juice of apples, a drink which is as pleasant and refreshing as cyder, without the latter's intoxicating properties. The manufacturer is R. H. Helben, Bournemouth. The National Temperance Beverage Company, Mansfield Road, London, N.W., had a remarkable variety of hop drinks, well fitted to be used as substitutes for beer and stout. This company's aerated drinks were all excellent. Mr. Harriot, of Wood Street, Westminster, provided his very agreeable, sparkling, and orange wines. He has devoted great attention to the subject, and his success is worthy of record. Larmuth's hopades were well patronised and thoroughly appreciated. Bell & Co., Breck Road, Liverpool, shone by the richness and elegance of their French Imperial liqueurs; and their unfermented wines were pronounced very good. The unfermented wine made by Frank Wright, Kensington, is too well known and widely appreciated to need a single word of praise. Nothing can be purer or more inviting to the eye, the redness of the liquid being due, not to artificial colouring matter, but to the employment of grapes with a red juice. Yet another and new kind of unfermented wine was exhibited by Moritz Meyerheim, of Didsbury, Manchester. This is totally different, both in appearance and flavour, from either of the other unfermented wines. It is sweet and

luscious, but has, withal, a pleasantly acid taste. It is the pure, inspissated juice of the grape, and is absolutely free from alcohol. A friend of ours, a non-abstainer, was quite delighted with it, as it reminded him of a wine he was, many years ago, very partial to in Malta. This is a new wine entirely, but will, we think, prove a most valuable and popular beverage.

THE NEXT MEETING IN LONDON.

A meeting will be held in the rooms of the Medical Society of London, Chandos Street, Cavendish Square, London, W., on Thursday, July 17, 1879.

The President, B. W. RICHARDSON, M.D., LL.D., F.R.S., F.R.C.P., will take the chair, at 4 p.m.

The PRESIDENT will exhibit his

newly-invented sphygmophone, and also Professor Hughes' audiometer.

A *précis* of the latest annual vital statistics of the United Kingdom Temperance and General Provident Institution will be presented by James Edmunds, M.D., M.R.C.P.

A *précis* and review of recent Experimental Researches on the Toxic power of the Alcohols, by Drs. Dujardine, Beaumetz, and Audigé, will be presented by Norman Kerr, M.D., F.L.S.

SPECIAL MEETING IN CORK.

Arrangements are in progress for a meeting of the British Medical Temperance Association at Cork, early in August, during the forthcoming annual meeting of the British Medical Association, and, when completed, notice thereof will be sent to all the members.

OFFICERS FOR 1879—80.

President.

B. W. Richardson, M.A., M.D., LL.D., F.R.S., F.R.C.P. London.

Vice-Presidents.

W. Carter, M.B., B.A., L.L.B., M.R.C.P., F.R.C.S.I.	Liverpool.
B. Collenette, L.R.C.P. Ed., M.R.C.S.	Guernsey.
Henry Dixon, M.R.C.S., Coroner for South Oxon	Watlington.
J. Edmunds, M.D., M.R.C.P., M.R.C.S.	London.
Deputy Surgeon-General F. L. Gunn, L.F.P.S.	Dublin.
R. J. Lee, M.A., M.D., F.R.C.P.	London.
J. M. McCulloch, M.D., L.R.C.S.	Dumfries.
Henry Munroe, M.D., F.L.S.	Hull.
Daniel Richmond, M.D., L.F.P.S.	Paisley.
J. Thompson, M.D., F.R.C.S., J.P.	Bideford.

Treasurer.

J. P. Scatliff, M.D., M.R.C.S. London.

Honorary Secretary.

J. J. Ridge, M.D., B.S., B.A., B.Sc. Enfield, Middlesex.

Council.

H. Branthwaite, F.R.S. Ed.	Willesden.
J. Dixon, M.B., C.M., L.R.C.P. Ed.	London.
Norman Kerr, M.D., C.M., F.L.S.	London.
G. B. Longstaff, M.A., M.B., M.R.C.P.	Wandsworth.
G. K. Poole, Surgeon-Major, M.D., M.R.C.S.	London.
C. J. Russell, M.D., L.F.P.S.	Messingham.
H. W. Williams, M.D., C.M., L.R.C.P. Ed., L.F.P.S.	London.

Auditors.

H. Lankester, M.R.C.S.	Leicester.
J. A. Rawlings, M.R.C.P.	Swansea.

Members.

Aldridge, J. D., M.D.	Southampton.
Anderson, A., L.R.C.P., L.R.C.S.	Edinburgh.

Atkins, Ringrose, M.A., M.D., M.Ch.	Waterford.
Barlow, T., M.D.	London.
Barnardo, T. J., F.R.C.S. Ed.	London.
Batten, Rayner W., M.D., F.R.C.S.	Gloucester.
Bishop, John, M.D.	Edinburgh.
Bradshaw, W. H. D., M.D., A.B., M.Ch.	Weston-super-Mare.
Brass, J. T. W., M.D., L.R.C.S. Ed.	Liverpool.
Branthwaite, Harrison, F.R.C.S. Ed., L.S.A.	Willesden.
Brodie, David, M.D., L.R.C.S. Ed.	Edinburgh.
Brown, T. J. Eames, M.R.C.S., L.S.A.	Penybont.
Bruce, R. W., L.F.P.S.	Glasgow.
Burrows, J. B., L.R.C.P. Ed., M.R.C.S.	Liverpool.
Burton, J. Earp, L.R.C.P., M.R.C.S.	Liverpool.
Carson, T., L.R.C.S.I.	Liverpool.
Carter, W., M.B., B.A., LL.B., M.R.C.P., F.R.C.S.I.	Liverpool.
Challacombe, J. P., M.D.	Bristol.
Christie, James, M.A., M.D., F.F.P.S.	Glasgow.
Clark, G. B., M.D.	Dunblane.
Collenette, B., L.R.C.P. Ed., M.R.C.S.	Guernsey.
Collyns, W., M.R.C.S.	Macclesfield.
Coryn, W. J., M.R.C.S.	London.
Cosgrave, E. M., M.D., B.A.	Colchester.
Dalby, W. B., M.D., F.R.C.S. Ed.	Torquay.
Dixon, J., M.B., C.M., M.R.C.P. Ed.	London.
Dixon, Henry, M.R.C.S.	Watlington.
Drysdale, C. R., M.D., M.R.C.P., F.R.C.S.	London.
Eden, T., M.R.C.S.	Oxton.
Edmunds, James, M.D., M.R.C.P., L.R.C.P. Ed.	London.
Eyton-Jones, T., M.D., F.R.C.S. Ed.	Wrexham.
Fairless, W. D., M.D.	Bothwell.
Gilchrist, James, M.D.	Dumfries.
Gill, John, M.D., L.R.C.P. Ed.	Newton Abbott.
Gill, J. B., M.D., M.R.C.P. Ed.	Folkestone.
Girvan, R., L.R.C.S. Ed.	Maybole.
Gornall, J. H., M.R.C.S.	Warrington.
Greenly, C. H., M.R.C.S.	Bristol.
Grieve, Wallace, M.B., C.M.	Barrow-in-Furness.
Gunn, F. L. G., Deputy Surgeon-General, L.F.P.S.	Dublin.
Harland, H., M.D., M.R.C.S.	Wadhurst.
Henry, R., Jun., A.B., M.D.	Brookborough, Co. Fermanagh.
Hibberd, E., M.D., M.R.C.S.	London.
Holdsworth, S., M.D., M.R.C.P.	Wakefield.
Howie, J. Muir, M.B., C.M.	Liverpool.
Jackson, T., M.R.C.S.	Whitehaven.
Johnston, H. M., M.D.	Stranorlar, Co. Donegal.
Kerr, Norman, M.D., C.M., F.L.S.	London.
Knaggs, R., M.R.C.S., L.S.A.	Trinidad.
Lankester, Henry, M.R.C.S.	Leicester.
Lee, R. J., M.A., M.D., F.R.C.P.	London.
Lineker, E. H., F.R.C.S. Ed., L.R.C.P.	London.
Longstaff, G. B., M.A., M.B., M.R.C.P.	London.
Lynn, J. M., Surgeon-Major, M.D.	Armagh.
McBride, Henry, C.M.	Gilford, Co. Down.
McCulloch, J. M., M.D., L.R.C.S.	Dumfries.
McKay, Duncan, M.D.	Inverness.
McKenzie, J., M.D., L.R.C.S.E.	Inverness.
McLachlan, Alexander, M.B., C.M.	Tobermory.
McMillan, E., L.R.C.S. Ed.	Glasgow.

McNeilage, D., L.R.C.P. Ed., L.F.P.S.	. . . . .	Spennymoor.
Menzies, Wm., M.D., F.R.C.P. Ed.	. . . . .	Edinburgh.
Miller, A. G., M.D., F.R.C.S. Ed.	. . . . .	Edinburgh.
Mitchell, J., Rev., M.R.C.P. Ed., M.R.C.S.	. . . . .	New Wortley.
Morton, Robert, A.B., M.B., F.R.C.S.I.	. . . . .	Castleblaney, Co. Monaghan.
Morton, Thomas, M.D., M.R.C.S.	. . . . .	London.
Munroe, Henry, M.D., F.L.S.	. . . . .	Hull.
Neild, F., M.D., C.M.	. . . . .	Plymouth.
Nevill, William, A.B., M.B., L.R.C.S.I.	. . . . .	Dungannon.
Norris, H. L., M.B.	. . . . .	Dumfries.
Norton, Edward, L.R.C.P., M.R.C.S.	. . . . .	Dorchester.
Nottage, J. B., M.R.C.S.	. . . . .	Lancaster.
Paramore, R., M.R.C.S.	. . . . .	London.
Poole, G. K., Surgeon-Major, M.D., M.R.C.S.	. . . . .	London.
Rawlings, J. A., M.R.C.P.	. . . . .	Swansea.
Reed, W. Cash, M.D.	. . . . .	London.
Reid, J. C., M.D., L.F.P.S.	. . . . .	Newbiggin-by-Sea.
Richardson, B. W., M.A., M.D., LL.D., F.R.S., F.R.C.P.	. . . . .	London.
Richmond, D., M.D., L.F.P.S.	. . . . .	Paisley.
Ridge, J. J., M.D., B.S., B.A., B.Sc.	. . . . .	London.
Ritchie, J. J., M.R.C.S.	. . . . .	Leek.
Robertson, J., L.R.C.P. Ed., L.F.P.S.	. . . . .	Castle Douglas.
Rochfort, W. M., L.S.A.	. . . . .	London.
Royds, W. A. S., L.R.E.P., M.R.C.S.	. . . . .	Reading.
Russell, C. J., M.D., L.F.P.S.	. . . . .	Messingham.
Sargent, D. W., M.R.C.S.	. . . . .	London.
Sayer, T., M.R.C.S.	. . . . .	London.
Scatliff, J. P., M.D., M.R.C.S.	. . . . .	London.
Shorland, E., M.R.C.S.	. . . . .	Westbury.
Smale, M. A., M.R.C.S., L.D.S.	. . . . .	London.
Smith, Sidney L., L.R.C.P., M.R.C.S.	. . . . .	London.
Smyth, Brice, A. B., M.B., M.Ch., M.R.C.S.	. . . . .	Belfast.
Spencer, G. O., M.B., M.R.C.S.	. . . . .	London.
Square, W. J., F.R.C.S.	. . . . .	Plymouth.
Stowell, T., M.R.C.S.	. . . . .	Brighton.
Symonds, C. J., L.R.C.P. Ed.	. . . . .	Southampton.
Thompson, J., M.D., F.R.C.S., J.P.	. . . . .	Bideford.
Thomson, G. Lawson, M.D., L.R.C.S.	. . . . .	Newbury.
Townson, B., M.R.C.S.	. . . . .	Liverpool
Turnstall, A. C., M.B., C.M., L.R.P. & S. Ed.	. . . . .	London.
Watson, T. H., M.B., C.M.	. . . . .	Sheffield.
Williams, H. W., M.D., C.M., L.R.C.P. Ed., L.F.P.S.	. . . . .	London.
Wielobycki, Severin, M.D., L.R.C.S. Ed.	. . . . .	London.
Worthington, W. C., F.R.C.S.	. . . . .	Lowestoft.
Yeld, H. J., M.D., M.R.C.S.	. . . . .	Sunderland.
Young, P. A., M.D., C.M., F.R.C.P. Ed.	. . . . .	Portobello.

Associates.

Branthwaite, R. W.	. . . . .	Charing Cross.
Franklin, J.	. . . . .	Charing Cross.
Horsley, J.	. . . . .	University College.
Locke, G.	. . . . .	Charing Cross.
Pearce, W., B.Sc.	. . . . .	St. Mary's.
Shaw, J.	. . . . .	St. Thomas's.
Tibbles, J. T.	. . . . .	Charing Cross.
Tibbles, W. T.	. . . . .	Charing Cross.
Treasure, W. B. C.	. . . . .	Charing Cross.

THE TWELVE CONTEMPORARY DOCTORS.

DR. DAVID BRODIE, of Edinburgh, has recently delivered a second lecture in that city on the *Contemporary Review* writers upon alcohol, in which he showed that, as abstainers, we can claim no small share of their teaching and testimony, as vindicating and establishing our principles and practice. "The whole statement of the case, as it appears in the *Contemporary Review*, is a curious illustration in these later days of the force of truth compelling most unwilling witnesses to utter what they had no intention or will to declare." After drawing a striking parallel between the position of the doctors and that of Balaam when he was called upon to bless the Moabites, Dr. Brodie proceeded as follows:—"But we must now listen and let the doctors speak for themselves. First in order we have the essay of Sir James Paget, entitled, 'The contrast of temperance with abstinence.' Sir James tells his readers:—"My study makes me as sure as I would ever venture to be on any such question that there is not yet any evidence nearly sufficient to make it probable that a moderate habitual use of alcoholic drinks is generally or even to many persons injurious, and that there are sufficient reasons for believing that such an habitual use is on the whole generally beneficial.' This is a strong statement from one who has lived so long and to such good purpose as Sir James Paget is known to have done, and it is certainly a statement which will secure the whole heart's gratitude of the licensed victuallers, whatever may be its reception by the abstainers. Again, Sir James says:—"As to working powers, whether bodily or mental, there can be no question that the advantage is on the side of those who use alcoholic drinks.' This statement, we maintain, is very open to question, and we shall find it contradicted in plain terms by Sir James's associates in the *Contemporary*. We should expect that anyone making such statements had some sufficient and well

defined grounds upon which they were based; but Sir James evidently feels that these are altogether wanting. He says:—"If the shortened lives, and damaged healths, the idleness and bad work of the drunkards, and all the miseries entailed upon their children, could be excluded from the reckoning, the evidence in favour of alcohol would be very greatly strengthened, and the reasons for preferring moderation to abstinence might seem conclusive.' It would, of course, very much alter the whole question if the mishaps done by alcohol did not come into the reckoning, but they are there and will not be ignored or talked out of existence; and on Sir James's own showing the reasons for moderation are not conclusive, and one may therefore be excused from accepting them. But Sir James really should have settled one or two points for himself before he undertook the advocacy of moderation as so very excellent and superior to all other modes of dealing with alcohol. He gives the extraordinary statement 'that it is certain that we have no facts at all by which to estimate whether the whole benefits of moderation, or the whole possible benefits or evils of total abstinence, or the whole sure evils of intemperance would be greater; we have nothing from which we may make even a fair guess. Without such knowledge it seems unreasonable to urge the discontinuance of a custom which is certainly pleasant, and probably useful, and very unreasonable to require temperate persons, who are an immense majority of the population, to cease to do that which is lawful, useful, and agreeable in order that the intemperate minority may be induced to cease to do that which is unlawful and mischievous.'

"Of course without such knowledge it would be most unseasonable to disturb the quiet contentment of the moderate drinkers; but how Sir James Paget has managed to live the life of a London surgeon and not pick up

enough of knowledge of the subject to enable him to choose between moderate drinking, total abstinence, and intemperance, is to us utterly inconceivable. Our difficulty has been how to shut out the knowledge of the subject which floods our ears and eyes every hour of our life—and it is because we have such knowledge in great abundance, and which Sir James also may, if he please, have for the taking, that we believe it is most reasonable and right to urge upon all the absolute discontinuance of the use of this deceitful and dangerous agent, inseparable as it is from evil consequences, and abstinence from which accomplishes only good.

"Since Sir James has chosen out of the twelve to be the champion of moderate drinking, he is not very hard to please in the reasons upon which he bases its superiority. He says, 'Although the subject be one in which even few among reasonable people have made any careful observations, and fewer still have thought with any care, yet this very indifference to the subject, this readiness to fall in with custom, all this is enough to prove that the evidence of the custom being a bad one is not clear.' To our mind it is certainly just about as difficult to infer, as Sir James seems to do, that a custom based upon carelessness, thoughtlessness and indifference, must be a good one. Notwithstanding his strong statements in favour of moderate drinking of alcohol, it is evident that Sir James has little confidence in the reasons which he has adduced in support of it. Thus, he says, 'It may be assumed that further study of the matter by competent and calmly-minded scientific persons, will discover many facts concerning the use of alcohol which will lead to the remedy of such harm as, even in moderation, it may do to some persons, or to some whole races of men, and to its use being better directed and limited than in our present customs. But knowledge of this kind will not change the general conclusion in favour of the general utility of a moderate use of alcoholic drinks, and till this knowledge is gained everyone

may assume that he may safely use them in such moderation as he does not find to be injurious.'

"It is very evident that he feels the need of better reasons than he has been able to produce in support of moderation in the use of alcohol, to which he clings with strange tenacity, and we venture to suggest that if Sir James will only be good enough to give a very little additional attention to the subject, he will find, in the statistical data supplied by assurance offices, and by the tables of mortality among the abstainers, the temperate and the intemperate in our Indian army, and from the experience of men from every class of society, and from every clime on the face of the earth, abundant evidence which ought to satisfy his every demand as to the immeasurable advantages of total abstinence, and which will put to shame the flimsy statements and attempts at argument upon which the advocacy of moderation has been based. But it just occurs to us that Sir James must have reached that mature age when the displacement of old beliefs and the acceptance of new ideas is a very troublesome and almost hopeless business. It is a curious fact in the history of medicine that no physician who had attained the age of forty years believed the discovery of the circulation of the blood by Harvey. It would be interesting to know if any of the twelve doctors are on the safe side of that fatal age.

"We have dealt thus in detail with Sir James Paget's statements, as his essay leads off and gives the tone to the whole discussion. It is, as it were, the text on which all the other essays are based. We shall not attempt to do the same with other essays, but we shall, as far as possible, allow each writer to speak for himself.

"We shall first see what support is given by the different writers to Sir James Paget's statement that working power, bodily and mental, is on the side of those who use alcohol. Dr. Lauder Brunton says, 'So long as a man is healthy he will, as a rule, do more work, mental or bodily, and be better without alcohol.' Dr. Bernays

says, 'When I have any work to do, which is the case from Monday till Saturday, I find abstinence from all alcoholic drinks my best guide.' Sir William Gull says, 'A very large number of people fall into the error every day of believing that strong wine and stimulants give strength.' Dr. Murchison says, 'I believe that there is little ground, either scientific or practical, for the prevalent belief that as regards bodily or mental working power there is advantage in its use to those who are in the enjoyment of good or average health. In a man who eats well and sleeps well, the judgment is clearer and the mental capacity greater when he takes no alcohol than when he takes even a small quantity.' And he adds: 'The cases in which small quantities of alcohol are constantly taken with the object of enabling a man to get through his daily toil are among the most distressing examples of alcoholism with which the medical man is brought in contact.'

"Dr. Risdon Bennett says, 'There are few people, I believe, who are aided in the actual performance of brain work by alcohol; the steady, continued exercise of the mental powers demanded of professional men is more often impeded than aided.'

"Dr. Wilks says, 'It is important to clear the ground, as I have attempted to do, of the many erroneous views which are held as to its action, for we shall thus arrive at a better decision as to its value. Discarding the nature of its stimulating properties, I denounce its use in delicate children and in women who feel "low." Having got rid of the notion that alcohol, being a stimulant, increases function and is a remedy for the weak, we should no longer be led by an erroneous name to order a young school-girl wine because she looked delicate, or an old person an extra glass because he was not so strong as in his prime. This very loose reasoning and practice has brought much discredit on so valuable an article as wine.' I wish wine had been the only sufferer. 'Weakness, in the usual sense,' Dr. Wilks goes on to say, 'is no gauge

for its administration. At the present time there is a prevailing conviction in the minds of English people that alcohol in some form or other is a necessity of life. Numbers of persons injure themselves on principle, and if they are weak consider beer, wine, or spirits, appropriate to the corresponding degrees of their debility.' Another sentence from Dr. Wilks we must give: If the doctrine that alcoholic drinks were not a necessity of diet could be accepted and strictly acted on, the remedy for intemperance is nearly found. Only let it be understood that children should be brought up without the use of fermented drinks, and that these need not of necessity be taken by adults, and the great curse of our country would be far on its course towards removal.'

"Now I appeal to you if all this is not thoroughly good teetotal doctrine which I have been quoting from these several doctors. To intelligent abstainers there is nothing new in it; it has been a settled part of our creed, and we have known it all long ago. The novelty is that moderate drinkers should make such discoveries at this time of day, and the curiosity and interest of the matter is that these are utterances of men who are intent, all of them, in saying all that can be said in favour of the habitual moderate use of alcohol. They extol the use of it dietically and medicinally—both as food and physic. Of this they make no secret, and yet the grand teetotal truth comes out—alcohol gives no strength; people in average health don't need it; they will do more work, mentally and bodily, without it, &c. Have abstainers ever asserted or asked for more than this? Truly the prophets have been constrained to *bless* that which they were only too well disposed to curse—the principle and practice of total abstinence from all that intoxicates. Surely this fondly-cherished gem which has so long adorned the crown of King Alcohol must be rolled in the dust, from whence it should never have been taken; but the glory of the case is, to us, that it has been taken from his

crown by its own votaries. Does it not become us devout abstainers to say, 'What hath God wrought?' Let us give God thanks, and be of good courage, and go forward, assured that the Lord, as with Israel of old, is with us and will prosper our ways.

"Dr. Lauder Brunton is the author of the second essay; he has previously written largely on the subject, and had the honour of being called as an authority on alcohol before the committee of the House of Lords on intemperance. The subject, therefore is not new or strange to him, as it evidently was in some respects to Sir James Paget. We may therefore expect some exact and trustworthy statements from him. Dr. Brunton very sensibly says, 'In order to understand what its uses are, we must try to obtain an accurate knowledge of the action which alcohol really exerts on the body.' Now this is beginning at the right end of the question. We have always maintained that this is the point on which temperance information is most defective, and where consequently the argument is weakest for practical purposes.

"Several of the writers are honest enough to say that they know nothing about the action of alcohol in or on the body. Thus Sir William Gull says, 'I do not know how it acts on the body altogether. I do not think it is known.'

"Dr. Bennett says, 'Much difference of opinion prevails on the physiological action and therapeutic use of alcohol, owing to the undoubted fact that the scientific problems have not been solved. We do not know precisely what becomes of it after it enters the stomach, in what, if in any, true sense it is food.'

"Dr. Wilks says: 'It is a remarkable fact that physiologists have not yet discovered the destination of alcohol after its introduction into the stomach; that is to say, what ultimately becomes of it in the system. Although spirit to the amount of millions of gallons is annually consumed in this country, yet after it has passed the human throat its history is in-

volved in the utmost obscurity. The scientific and physiological discussion of this question, therefore, may be put aside until fresh light break in upon us, and in the meantime medical men and others must be constantly asking themselves the question whether or not alcoholic drinks are useful adjuncts to the ordinary diet. We all usually answer this question by the usual rough-and-ready method,—the state of our feelings.' This is indeed a candid concession which Dr. Wilks has given us, but the twelve doctors, instead of asking the question, have answered it; and evidently enough, like the rest of creation, on the rough-and-ready method of the state of their feelings. In short they love their glass of wine, and intend to take it, let the consequences to themselves and others be what it may.

"But let us see what Dr. Brunton says on the action of alcohol, for he has no confession to make of his ignorance of the subject. He believes he does know something about it. He says, 'the two chief reasons given for the consumption of alcohol are—first, that it is food; and, second, that it is a stimulant.' In evidence of its claim to be regarded as a food, Dr. Brunton refers to sugar, which he says disappears in the system, and when taken in large quantities is excreted unchanged. Alcohol in these respects, he says, resembles sugar, and on this ground he concludes, 'We may regard its title to the name of food as completely established.' Of both of these substances he admits that they will not support life if given alone; that is, a creature fed upon them alone will quickly starve and die. Rather an important defect in a food; but, after drawing this confident conclusion, the concession is made that it can hardly be regarded as a convenient food in health. This attempt to foist alcohol in among the foods is pitifully lame. Sugar in its ordinary form is known to be among the most worthless of the substances consumed by human beings for life-sustaining purposes, and yet a scientific physician and physiologist fixes on it as though it were the very type of a food,

and attempts to exalt this article to a place which it has not the slightest right to occupy.

"Will Dr. Brunton inform us, if any product of the decomposition of true food still retains its character of a life-sustainer, or if there be any food which will prove fatal in 4 oz. doses, or much less if given in absolute purity; or if there be any food which will produce delirium tremens, or any similar terrible condition of the nervous system; or which will produce, as Dr. Murchison tells us alcohol does even in moderate daily doses, the brittle artery, the softened heart, the diseased liver, and the gouty kidney, which render life a burden, or terminate it altogether?"

"An equally curious strain of argument as to the effects and value of alcohol as a stimulant, is presented, which may be safely left to be answered by Dr. Wilks and some of the other associates of Dr. Brunton. Dr. Wilks denies that alcohol can be justly regarded as a stimulant at all, but that its effects are sedative and narcotic as truly as those of opium or chloroform, and he gives good and conclusive reasons for his views. Dr. Brunton himself makes the admission that 'the effect of alcohol upon the nervous system may be described as one of progressive paralysis.' 'One of the most esteemed novelists of the day,' he says, 'finds that a single glass of sherry takes the fine edge off his intellect,' and under the action of alcohol, 'by-and-by, the tongue stammers, the vision becomes double, the legs fail, and the man falls insensible,' a sufficiently strange result to follow the use of food and stimulus. The man, according to Dr. Brunton, has been fed and stimulated to paralysis and insensibility.

"Just another specimen of the absurdities which men will utter when they attempt to settle such questions on the rough-and-ready method of appealing to their feelings: Dr. Radcliffe stifles the teetotal convictions of a clergyman who consults him by such statements as the following:—'Alcohol is of great service, partly in keeping up the animal heat by supply-

ing easily-kindled fuel to the respiratory fire, partly in producing nerve power by furnishing easily assimilable food to nerve tissue, and partly in lessening the necessity for ordinary food by diminishing the waste of the system, which has to be repaired by food.' Here he utters just as many mischievous and misleading errors as there are sentences in his statement.

"Let us just add what Sir William Gull says on the food and stimulant question:—'The constant use of alcohol even in moderate measure may injure the nerve tissues and be deleterious to health. In the treatment of disease alcohol has but a subordinate value, which is chiefly due to its action on the nervous system as a sedative. It is the best agent we possess for deadening the nervous system.

"Thus, again, the prophets' testimony fails to bring any credit to alcohol being regarded as food, or as being at all helpful to health or life, and it confirms the position long insisted on, both on practical and scientific grounds, by abstainers,—that its employment in health is always and altogether mischievous.

"Thus, again, the prophets have blessed us.

"If it were possible to carry on our examination of the other strange statements hazarded in these papers, and simply fire off the statement of one writer against the statement of another, it would be easy absolutely to neutralise every assertion in favour of the moderate use of alcohol, so as to leave the residuum altogether conclusive in favour of total abstinence from that agent, now again proved to be destructive of all that is good and worthy of preservation in human nature.

"But we shall only refer to one or two of the more important statements. On the great central question as to what moderation in the use of alcohol is, and what are the effects of this *moderation*, we must let the doctors speak.

"Dr. Bennett says, in the eighth essay:—'But what is to be understood by the moderate or temperate use of alcohol? On the answer to

this question it will depend whether the position assumed can be maintained.' All the reply Dr. Bennett gives is:—'It is not easy to give a positive answer to such a question, though it would seem that it would hardly do to say that every man must judge for himself.' None of the twelve came any nearer to an answer, but several of them declare plainly that there is nothing for it but that every man must find out for himself what is moderation for him, *i.e.*, what he thinks he can stand. Dr. Bennett, moreover, recognises the serious character of the difficulty, and asks, 'Who is to blame that there are so many foolish and ignorant people who cannot tell whether they are better or worse in health for the amount of alcohol which they daily take? The teetotalers and other dogmatic people blame the doctors,' and I am afraid that they have too much truth on their side. But Dr. Bennett resents this serious imputation. He claims that the doctors have done much to demonstrate and denounce the evils of intemperance, and he asks, 'Who have instituted and carried out all the laborious investigations into the physiological action of alcohol with the express purpose of determining its action and uses in health and disease? The utmost pains,' he says, 'have been taken by the profession to enlighten the public on the burning question of the day.' We have only to look at this sorrowful discussion in the *Contemporary* to see that all these 'laborious investigations' have failed to supply to these twelve doctors a single fact or principle to determine its action and uses either in health or disease; and as to the pains taken by the profession to enlighten the public, we say it advisedly and deliberately, they may in the meantime safely be spared. The mote in their own eye had better engross the attention of the profession, and let the beam which they see in the eye of teetotalers alone. Judging from the exhibition of obscurity and uncertainty, the teetotal public, with some hope of success, may undertake to enlighten the profession.

"Well, then, since we can have on

answer to the question what moderation is, let us hear what it does. Dr. Murchison says, 'My experience has led me to the conclusion that alcohol, taken in what is usually regarded as moderation, is more or less directly the cause of a large number of the ailments which in this country render life miserable, and bring it to an early close.' 'To by no means a small class of persons, alcohol, even in small quantities, is an unmistakable poison—an unmitigated evil.' 'The healthy man who wishes to live long, and to continue to enjoy good health, ought, I believe, to abstain from the habitual use of alcohol—its habitual use even in moderation may, and often does, induce disease.'

"Sir William Gull says, 'One of the commonest things in society is that people are injured by drink without being drunkards—it leads to degeneration of the tissues, and spoils the health and intellect. Short of drunkenness, my experience is that alcohol is the most destructive agent we are aware of in this country. Much injury is done to health by the habitual use of wines in their various kinds, and alcohol in its various shapes, even in so-called moderate quantities.'

"Dr. Bennett says to those in the full vigour of life, who are in blissful ignorance of stomach distresses, 'I would say abstain, run not the risk of dispelling your ignorance and losing your bliss.'

"For the third time have not the prophets blessed the abstinence movement? While extolling the moderate use of alcohol as so good and wise and blessed, and asking men to accept it as a rule of life, they have had to confess again and again that they are talking of that which will not bear definition, an utterly elastic phrase which will adapt itself to every phase of alcoholic indulgence, and which, themselves being judges, instead of being safe and salutary, is the cause of most serious evils, and subversive of life and health.

"How can we escape charging these prophets with the sin of Balaam, who taught Balak to cast a stumbling-block before the children of Israel?

“One other little bit of advice suitable to the present times we would take from Sir William Gull. All the writers confess that the public mind needs instruction on this great question, and they recognise the immense importance of a sound and enlightened public opinion as to the enormous evils of intemperance, and the doctors themselves hope to grow in knowledge by fresh light coming upon them, though they might profit not a little by a better use of the light and knowledge already at their disposal. We have, I am sure, in the sad state of prejudice in which we have found our doctor friends a most conclusive proof of the need of making early impressions of the right sort upon young minds. ‘Train up a child in the way he should go, and when he is old he will not depart from it,’ applies to minds long after school-days are past ; but we ought to begin at the very

beginning — teach the young in day schools, teach the young in advanced schools, teach the young in medical and divinity schools ; teach young fathers and mothers ; teach young men and maidens. All this requires to be done if we are to maintain our cause in the face of the tremendous opposition with which we have to contend, all the power of which is based on ignorance and prejudice. If we cannot act upon Sir William Gull’s opinion, when he says, ‘I am persuaded that nothing better could be done than that lecturers should go about the country instructing the people upon the disadvantages of alcohol as it is daily used,’ we can at least make sure that the work is well begun by providing for instruction on the subject in our public schools. Here the seed may be sown which will grow a great tree.”



TEMPERANCE IN THE TREATMENT OF THE SICK.*

By GEORGE H. B. MACLEOD, F.R.S.E., *Regius Professor of Surgery in the University of Glasgow, and Surgeon in Ordinary to the Queen.*

To those who practise medicine in a great city such as this, it cannot fail to be a source of wonder and regret that so large a number of people use alcohol habitually in excess. A very large proportion of our hospital patients are addicted to such habits, and a very considerable proportion of the accidents and diseases with which we are called on to deal are more or less directly due to such tendencies. The recklessness out of which the accident arises, the complications which follow it, the difficulty of securing a complete and satisfactory, not to say a rapid recovery, are in many cases the direct results of indulgence in alcohol. Many patients are chronic inebriates,

whose vital organs have been weakened by long excess, and whose recuperative powers have been sadly if not fatally weakened. In private practice also we are often opposed by the occult influence which arises from the same cause. Being carefully concealed from us, it may be long of being discovered, but we yet daily trace its pernicious effects in thwarting our remedies. We perceive the same thing in dealing with the children of intemperate persons. Their ailments, mental and corporeal, not unfrequently take a complexion of their own from the habits of the parents. The low vitality, the stunted growth, the late maturity, the epileptic seizures, the hydrocephalus, and numerous other morbid conditions met with, occasionally own the intemperance of the progenitor as their cause. It is now well known how apt intempe-

* From an Address delivered at the request of The Glasgow University Total Abstinence Society.

rance is to become hereditary, and to beget various forms of insanity. On the other hand, I have been much struck with the very considerable number of persons who, applying for assurance on their own lives, have told me that they had become total abstainers from the warning influence produced by a parent's intemperate habits.

In administering alcohol to the sick, it is important to learn, if possible, what was their previous habits regarding its use. This information is often very difficult to obtain. A large number desire to be considered very temperate, when, in truth, if they are judged of by ordinary standards, they they would be classed as very much the reverse. Men's notions of temperance in this, and many other things, differ very widely. In the hospital, we always try to form, if possible, some estimate on this point. Occasionally, in private practice, we are entirely and intentionally misled. There is no more painful feature connected with intemperance than the deceit and shameless deceptions to which it leads. Whenever a patient takes exceptional pains to define to us the exact amount of stimulant he consumes, and when he reverts to it again and again, we should be on our guard against deception. When, after having apparently exhausted all inquiries, yet they linger, having something still to ask, and come out with what was evidently the question which lay all the while uppermost in their thoughts, "Oh yes, and, by the way, what about stimulants?" you may be tolerably certain that it is a point which requires attention. I am frequently interested to observe the cautious, cunning, assumed *sang-froid* with which a husband or a wife, coming to consult one in company with the other, will put the question, without daring to look at their companion, in whose startled face you at once read how important is your answer.

Some of those who indulge most will prove very obtuse in understanding all such indirect questions as you may put, in order to find out whether

your suspicions are well founded. They will express great astonishment and horror if the inquiry be so pointed as to leave no door of escape, and their loud denunciation of such vile habits may even allay your suspicions and deceive you entirely for a time.

Further, there is a certain number of persons who consult with the very thinly veiled design of getting you to connive at their habits. Very likely they have been blamed at home for over-indulgence, or possibly their own consciences demand to be quieted. They give you a pitiable account of their weakness of body,—their feeble digestion and their mental depression. They have such feelings of "sinking"—such flatulence and misery. They cannot eat till they taste "a mere drop," and they commonly quote some distant or deceased practitioner for authority to take the "thimbleful" in which they so often indulge. If you oppose such practices, as you are bound to do, knowing how certain they are to increase the evil, and lead to eventual destruction, the chances are you will never see the patient again, as he will at once discover that you "do not understand his complaint," and will seek the aid of a less scrupulous practitioner. This leads me to say that an unconscientious and unprincipled medical man may very readily increase his *clientèle* by pandering to these tastes, as many who desire the authority and countenance of a medical attendant to pursue their destructive habits will gladly seek his aid. Such success is, however, usually but short lived, and cannot fail to leave a sting of self-reproach in the breast of the practitioner.

Alcohol is said to increase the flow of the gastric secretions when used in moderate quantities, and so to promote the digestion of food. The limit, however, to its acting thus is a very restricted one. If used in any quantity it never fails to irritate the lining membrane of the stomach, and so produce the very opposite effect to that stated. A small quantity, however, soon loses the effect sought; as the amount is increased the deterioration

which over-stimulation is certain to induce is brought on, and the terrible indigestion of the tippler is established.

In the treatment of shock—of violent and overwhelming depression of the vital powers—I hold that alcohol is our most rapid, sure and convenient remedy. It is true it must be employed with great care, like any other powerful agent, and its effects watched and controlled; but there is no other agent which in extreme cases can take its place. In the crisis of several ailments in which the tendency is to death by asthenia—in the struggle for life which marks a certain period in the process of septicæmia—in the depth of feebleness which follows the “turn” in not a few complaints, in which food of all kinds is loathed, and cannot be assimilated—in the weakness of old age, when the fire burns low and the heart threatens to cease its function—in failure of the circulation through the extremities from heart weakness—in those states of the system in which waste overtops repair, notwithstanding all the aid received from food—in spreading gangrene, when a line of demarcation or one of separation is anxiously sought for—in extensive burns and frost-bites—in hæmorrhages and some internal congestions—in combating wasting discharges—and in the depression and exhaustion which attend some forms of cancer, there is good of the most manifest kind to be got from the judicious and properly timed use of alcohol, which no unprejudiced man will deny. In many ailments which tend to exhaust themselves if life can only be upheld long enough—where the ship has to be worked round a point into smooth water, and the powers of life, already sorely taxed, will surely fail unless urged by an agent whose power we can estimate with tolerable accuracy, and regulate with fair success—then, I think, alcohol has the advantage of all agents known to me.

Put against this, however, what I know from experience to be the fact, that in the great run of surgical ailments—in the great majority of those

I have to deal with either within or without the walls of the hospital—no aid is required from stimulants; but, on the contrary, these complaints are much better managed without alcohol. At the moment I address you I have under my care more than fifty surgical cases, and only one, and she a very weakly woman, with blood poisoning, is taking alcohol. Among the cases I allude to are many who have undergone serious operations, and many old and feeble people. I mention this to show that, while I resolutely defend the use of alcohol in certain cases, I am but little given to its administration in the usual practice of my profession. It is food and not stimulants the mass of patients require to restore them. If food of a nourishing and concentrated kind can be taken and assimilated, that is what will recuperate our patients and prolong their lives. Alas, it is the want of this power of assimilation which baffles us so frequently in dealing with disease, and *that* is not unfrequently the offspring of previous intemperance.

I would strongly warn you against the careless way in which the amount of stimulant to be used is too frequently prescribed in the sick room. Occasionally one hears friends told to “be good to the patient,” or to take care and “keep up his system,” or to “stimulate him freely.” No such lax and injudicious instructions should ever be given, but the exact quantity scrupulously laid down, and care taken that it is adhered to. Weak, nervous, worn out persons will put a very liberal interpretation on any mere general instruction, and thus you come to discover that food is neglected for alcohol—truly, “One halfpennyworth of bread to this intolerable deal of sack.” Never allow the bottle containing the stimulant to be kept in the sick room, but let the precise amount to be consumed in the twenty-four hours be put into a separate phial, so that its progressive use may be judged of accurately. It is in the management of such details that a trained nurse proves so invaluable. You will soon find how little authority relatives

often have with an invalid, and how little reliance can be put in unskilled attendance. Not very uncommonly you will be intentionally deceived by anxious friends, who fall into the common error of supposing that the strength is to be regained by the use of alcohol rather than by food. We must explain the true use of stimulants to those about the patient, and get them to see that such agents are to be given with as much precision and care as opium or any other drug. Let them understand that if used as ordered good will be got, but that an overdose may prove most injurious and harmful.

Now, the practical teaching of all this may be summed up by saying, that the vast majority of surgical ailments do not require an alcoholic stimulant at all for their successful treatment, but that for some it is useful, and for a few most important. That in every case in which the question arises whether we are to employ alcohol, we should very carefully and attentively consider whether the good to be gained by its use is greater than any harm which can result. We must be clear that the *indication* for its employment admits of no question to our experience, and knowing and having come to a conclusion on that point, we try to define the best form in which to administer it in the special case before us. In any case, if the need is not pressing, begin with a small dose, and slowly augment it to that quantity from which increasing good is got, being ready to diminish or stop if need arise. Daily, or even in bad cases hourly, observation will be required to clear up the problem, and our chief guides are to be got from the tongue, pulse, skin, secretions, and sensations. If the tongue gets cleaner and more moist—the pulse firmer, slower, and more regular—the skin less pungent, and more soft and natural—the secretions more healthy—the sensations more comfortable, and the mind clearer and calmer, then we may dismiss all fear that harm is caused by the remedy; but if the contrary effects follow, then the quantity must be diminished, or the alcohol alto-

gether discontinued. In short, alcohol is a powerful agent for good or bad; and if we use it at all in the treatment of the sick, we must, as it were, constantly interrogate those organs which tell us how it is acting on the economy.

Once for all, I would add that it is wrong—it is criminal, in my opinion—to employ such an agent carelessly, and without the most scrupulous and conscientious safeguards against its *abuse*, and without stopping it so soon as it can be done without. The practitioner assumes a great responsibility when he administers alcohol, especially to one who has not before used it, and he must see that by no carelessness of his shall injurious habits be inaugurated. There cannot be a doubt but that intemperance can frequently be traced to the license of a sick room, and such a result must be a terrible reflection to those responsible for it. We must bear this in view, and make it clear when the use of the stimulant is to be given up.

Finally, I most heartily subscribe to the opinion which, I am glad to think, begins to prevail, that there is no risk whatever in withdrawing alcohol suddenly and absolutely from inebriates. I have long known and practised this. It is, in my experience, the only hope for their recovery. Half-measures always fail. Let it be absolutely forbidden in any form and quantity, and though I am not very sanguine as to success in the case of confirmed drunkards, yet for those less hopelessly abandoned there is, by following rigid abstinence, a chance of reform. Nourishing fatty food, sugar, plenty of fresh air, and mental enjoyment, will help to wean the victim from his poison.

Our profession may do much to promote temperance, and it is its bounden duty to exercise its widespread influence to such a good end. One of the most painful sights I ever saw was the graves of three young medical practitioners, all victims to intemperance, which lay, side by side, on the sunny slope of a Highland hill, beneath the shadow of an ancient cross, which had been erected by the self-denying Anchorites of the early

faith. One after another, they had gone to practise their divine art, and, in succession, fell victims to their self-indulgence, a melancholy picture of neglected talents and wasted lives.

Gentlemen, let us determine that we will avoid all such vices, and fulfil the old promise, which Hippocrates, the father of our science, imposed on his disciples (and which is almost exactly reproduced in the declaration you will all sign on graduation here), "I will follow that system of regimen

which, according to my ability and judgment, I consider for the benefit of my patients, and *abstain from whatever is deleterious or mischievous*. I will give no deadly medicine to any one, if asked, or suggest any such counsel, and *with purity and holiness*, I will pass my life and practise my art." These are noble words,—they were the sentiments of a Pagan, but they would do honour to the most exalted Christian.



THE LORDS' COMMITTEE ON INTEMPERANCE, AND THE MEDICAL EVIDENCE.

THE ARCHBISHOP OF YORK'S AMENDMENT.

THE following is a copy, in full, of the amendment regarding the medical evidence moved by the Archbishop of York in the Lords' Committee on Intemperance :—

"The committee invited Sir William Gull and Sir James Paget to give evidence on the physiological part of the question—aspects of drunkenness. The latter declined, as having given no special attention to the subject; and, at the request of the committee, he named Dr. Burdon Sanderson and Dr. Brunton as likely to give valuable evidence. Sir Henry Thompson was also invited; and at a later stage of the inquiry Dr. Richardson tendered his evidence. From these gentlemen much valuable information has been received.

"They agree that the effect of alcohol upon the temperature of the human body, when exposed to cold, is, contrary to the popular belief, to lower and not to raise it; that no tissue of the body is built up by means of alcohol; that, unlike other articles of diet, it often excites after long use a dangerous craving; that its chief benefit to health is that it stimulates the secretion of the stomach, and so promotes digestion; that to persons in good health and in the prime of life such aid is needless; and that, on the

whole, such persons would be better for abstaining entirely from the use of it.

"This applies to small doses of alcohol; the effect of large and continued doses is admitted to be hurtful and even poisonous.

"The common belief that alcohol protects from cold must give way to the belief, if these witnesses are to be accepted, that a lowering of the temperature is the sure though not the immediate consequence of its use. Alcohol, absorbed in the blood, acts on the nerves and quickens the circulation, and, by urging the blood into the capillary vessels, produces a glow and a sensation of warmth; but the blood, being thus driven to the surface, is cooled more rapidly by the outer air, and so the secondary effect is to lower the temperature sometimes to a serious degree; and the patient exposed to extreme cold may find his destruction in what he took as his protection. This power of alcohol on the circulation makes it a valuable remedy for the state of collapse after prolonged exposure to cold.

"That no tissue of the body is built up by alcohol is now proved. Its uses, as an article of diet, seem to be that it stimulates digestion, and that it is converted, at least in part, into

carbonic acid and water, and undergoes combustion in the body; in prolonged muscular exertion it is no help, but it is positively injurious.

"With this evidence, another of the popular fallacies that encourage drinking falls to the ground. The coalwhipper and the porter keep up their strength by a vast consumption of malt liquor, on the ground that without it they could not get through the severe work. The nature of their employment rather indicates that they ought to repair the tissues by food, which can supply the muscular fibre, and not by drink, which has no such power.

"That much of the alcohol which is consumed is useless, and worse, comes out clearly from all the witnesses. Dr. Burdon Sanderson, whilst pointing to another advantage, in the exhilarating effect produced by a moderate use of drink says, 'My belief is that, upon the whole, the human race would be situated just as favourably if the use of alcohol did not exist; the evils certainly preponderate over the benefits, and all the benefits are indispensable benefits.' Dr. Brunton: 'If a man eats well and sleeps well, he does not require alcohol; he is better without it.' Sir William Gull, whilst thinking that temperance societies are not listened to because they carry their theories too far, considers that it would be most desirable to explain to the middle and upper classes, through lectures, the disadvantages of alcohol as it is daily used. Sir Henry Thompson, asked whether we should all be better without drinking alcohol at all, replies: 'All is a very comprehensive term, but I think the great majority of persons would be better without it. I conform to that principle myself, and act solely with a view to attaining the best possible health.' The testimony of Dr. Richardson is still more emphatic, and in the same direction.

"As to the effect in drinking in excess, the witnesses, one and all, admit that they are disastrous. It is to be observed that in their mind the limits of excess are passed long before actual drunkenness is reached. Sir Henry Thompson remarks, it is not

the drunkard who gets the gout, but the man who takes a little habitually; 'I say, granting that there is some connection between drinking of the moderate kind and gout, there are a great number of kidney and other diseases which come into that category, and which are so produced; I think that the great majority of people suffer a little prejudice by the daily use of alcoholic drinks, and, therefore, that if these are not serviceable they must be, to a certain extent, injurious.' Sir W. Gull, when asked whether a moderately temperate person might be benefited by a slight use of wine or alcohol, replies, 'I should hold the opposite as regards the intellect; all alcohol, and all things of an alcoholic nature, injure the nerve tissue *pro tempore*, if not altogether; you may quicken the operations, but you do not improve them.' He adds that the constant use of alcohol, even in a moderate measure, may be deleterious to health. Asked whether he has known cases where the effects of alcohol are manifest, although there has not been any outrageous drinking or obvious excess, he answers, 'That is very common; I should say that one of the commonest things in society is that people are injured by drink without being drunkards; it goes on so quietly that it is difficult to observe even.' To the question, 'Setting aside the drunken part of the community altogether, is great injury being done to them by the use of alcohol, in what is supposed by the consumer to be a moderate quantity?' he replies, 'Yes, I think so. I think that, taking it as a whole, there is a great deal of injury done to health by the habitual use of wines in their various kinds, and alcohol in its various shapes, even in so-called moderate quantities. I would like to say that a very large number of people in society are dying, day by day, poisoned by alcohol, but not supposed to be poisoned by it.' According to Dr. Richardson, 'in all persons who take wine and spirits, for long, and in very slight excess indeed, there is persistent dyspepsia.'

"There is hardly an organ of the body which does not suffer from habits

of drinking. All the witnesses seem to agree that the brain and nervous system are impaired; that the gouty habit is induced, which affects now the limbs, now the kidneys and other great organs of the body; that the stomach is inflamed by drinking, carried somewhat further; that the liver assumes a scirrhus character, and that the kidneys suffer a similar change; that all the tissues degenerate and become the seat of various ailments, such as Bright's disease of the kidneys and fatty degeneration of the heart; that the power of the brain and of the muscles is sensibly impaired, whilst the patient believes that he is using, in strong drink, the very best support, whether for mental or bodily effort; and that with these structural and functional changes, and as a consequence of them, grows up the fatal craving for stimulants, which seems to deprive the patient of the control of the will, and to carry him over the line which divides the sane and responsible from the insane.

"Such being the opinion of the great authorities in the medical profession, and such being the popular practice, it is very much to be wished that the education of the public on this subject could be carried somewhat further. A large number of persons, whatever the weight that they attach to higher motives, desire to regulate their food and habits according to the rules of good sense. They do not intend to court disease in their drink, or to imbibe a poison, quick or slow. If they could be convinced that the draught from which they expect a warmth will chill them in the next stage; if they could know that the exhilaration of the moment left the exhilarated organs with a permanent loss; that the stimulants which enabled them to dash off the poem or essay in a night would derange for future nights the most delicate organ, and unfit it for other efforts in the future; if they were aware that the use of alcohol as a food was sure to be followed, in a greater or less degree, according to the resisting power, by impairment of the chief organs of the body, whilst other foods, quite as be-

neficial for the combustion by which the bodily heat is sustained, are not liable to the same charge, it may well be supposed that they would modify their system of diet in conformity with their new knowledge; as indeed many well-informed persons have already begun to do. The young would find on experiment that they were able with advantage to dispense with alcohol altogether; the old and middle-aged would draw much closer the limit of wholesome drinking which their time of life might seem to require; and those who have the charge of children would take the benefit of the opinion of the medical witnesses, that children who have not known the use of alcohol, for good or for evil, would do well to keep clear of it altogether, as needless at the best.

"As a medicine, alcohol is held to have virtues which, for fevers and other ailments, make it indispensable. The other medical witnesses would not agree with Dr. Richardson, who thinks that it might, without loss, be obliterated from the list of foods and medicines. As to the mode of its action in the cure of disease, the witnesses decline to speak with great exactness; but the exposition of Dr. Burdon Sanderson seems to be the accepted one—that in fevers all the tissues waste, first the fat, then the muscles, and that alcohol prevents this waste, and seems to act as a restrainer of it, at a time when the patient is too weak to take any other food. The cause of this waste of the tissues is that they are used or burnt in the process of respiration; alcohol takes their place and supports respiration, when the stomach is too weak to prepare and assimilate any other food for that purpose. Hence the medical witnesses, whilst fully alive to the evil results of drinking, would not approve any attempt to prohibit absolutely the production or importation of alcohol.

"Questioned as to the possible treatment of those in whom the craving for drink seems beyond their own control, the witnesses seem to admit that this subject is still imperfectly understood. Dr. Brunton believes

that he can discern a connection between the periodic craving for drink and epileptic fits. In some cases a catarrhal condition of stomach is supposed to be connected with the craving, and it is thought that tonics would tend to a cure; but some would rather rely on good food, and do not expect much benefit from drugs.

"The subject of the restraint of the incorrigibly intemperate is one of the most difficult in connection with this inquiry. The well-known principle of the law is that offences against society are punished with restraint, whilst offences which only recoil on the offender himself are not so visited. Thus a man who is reeling in drunkenness along a public street is punished; but no attempt is made to follow the drunkard into his own room to see the condition to which he nightly reduces himself. Following this principle, it would appear that a sentence of restraint intended for the drunkard's cure could not be sustained for mere drinking; and that if it could ever be inflicted, it would be on those who have repeatedly been convicted of public drunkenness, and so have earned the position of hardened and incorrigible criminals in that matter. Cases are recorded in which the whole life seems to be divided into fits of overt drunkenness, and terms of imprisonment for these; and the Legislature might well consider whether the punishment for such inveterate cases might not be more lasting, and so adjusted as to give them a chance of permanent reformation.

"The confinement of persons who have not been convicted is much more difficult. The notion that such persons are actually insane, and may be treated as such, finds no favour with Sir William Gull, who considers that dipsomania is only a 'euphonious expression for incorrigible drunkenness,' and who points out the marked distinction between insanity and drunkenness, that 'a man who is drunk

gets sober when the drink is eliminated. The insane man does not recover by such a process.' The law has found it a task of great difficulty to regulate the restraint of the insane; and abuses are possible after all the care that has been taken. But the task would be much more difficult if drunkards were to be treated as insane, and confined in asylums for long periods at the instance of their friends. What is drunkenness? When does it become incorrigible by ordinary means? At what point is the will destroyed, or passes in abeyance so as to justify restraint? How are we to ascertain that motives of interest, shame, or revenge are not at the bottom of the coercive treatment on the part of the relatives? Insanity is definable, even though it be difficult to define; and the answer to all such questions in the case of the insane is that the patient is mad. But the shades of drunkenness are many; and the committee has not been helped, even by the eminent witnesses who aided them, to any test of a like kind applicable to the intemperate. Until such test is found, it would be dangerous to place at the disposal of the friends of the intemperate the power of depriving them of their liberty, even though it be shown that in some cases a cure might follow.

"These objections, however, do not apply to cases where coercion is applied at the request of the patient himself; such a contract would be voluntary in the first instance, and afterwards coercive. It would be a voluntary surrender of liberty by a person of disposing mind for a fixed period, with a view to medical treatment, and the restraint would serve the purpose of preventing the morbid craving from outbreaks that would be fatal to the treatment. This part of the subject is worthy of more attention and experiment than it has yet received."

A WORKHOUSE INFIRMARY EXPERIENCE.

DR. H. W. WEBSTER, Medical Officer of St. George's, Hanover Square, in a Report presented to the Guardians, 28th May, 1879, after giving some particulars regarding the cost of maintaining the paupers, says:—The next item is the last, and de-

cidedly the least. It is that of stimulants, and it includes brandy and wine. The entire cost for these was £8 3s. 6½d. In order to simplify the above financial details, I venture to repeat them in a tabular form.

Total cost for	Food.			Gas.			Drugs, &c.			Fuel.			Water.			Stimulants.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Whole year ..	7,727	4	0½	593	17	4	377	17	10½	526	16	0	198	18	0	8	3	6½
Per head per week		5	3¾			4¾			3½			4½			1½			1½d.

With one exception, the facts so far given are not in way unusual or different to those set forth in the returns published by other large Union Infirmarys, and to this exception I now wish to direct your attention, as it is the most marked and distinguishing feature exhibited in our system of working,—I allude to the employment of alcoholic fluids in the treatment of disease.

The Guardians will recollect that at the opening of the building they furnished me with a copy of the "Report of the Select Committee of the House of Lords on Intemperance," and requested me to give the matter earnest consideration, and inform them whether it was possible to limit the consumption of stimulants in the Infirmary. Long observation in Poor Law Hospitals having engendered strong convictions on this question, I had already determined to attempt the introduction of the non-alcoholic method of treatment at the first favourable opportunity. An admirable one offered in the opening of a large building, for these reasons. In a new institution, under different management, with fresh officers and altered rules, far less opposition to reforms

might reasonably be expected from those affected by the changes than in an old established one. Innovations would be anticipated and therefore more cheerfully borne.

The use of the system mentioned was consequently commenced, but pursued at first in a tentative manner, the patients being educated gradually in the principle that spirit was a medicine rather than a food. No startling result becoming manifest the course was quietly continued until the Infirmary contained 670 people, who were living from day to day without beer or brandy as an article of diet, and without any deterioration of health due to the privation.

Still steadily keeping to the principle, the end of the first year came suddenly upon us, and with it an opportunity of comparing the general effect of the treatment with that of other Institutions in which alcohol holds a prominent position.

In the following Table are displayed, (1) the average number of patients under treatment, (2) the amount expended for one year on wine, spirit and ale, and (3) the rate of mortality at six of the Metropolitan Infirmarys.

Name of Infirmary.	Average Number of Patients.	Cost of Ale, Wine, and Spirit.	Death-rate.
Poplar and Stepney Sick Asylum	450	£625	19 per cent.
Central London Sick Asylum, Cleveland Street	226	£278	16 "
St. George's Union Infirmary	559	£8	12½ "
Chelsea Infirmary	240	£349	12½ "
Lambeth Infirmary	540	£554	10½ "
Central London Sick Asylum, Highgate ..	446	£612	10½ "

It is not contended that in the limited details here given there is any reliable ground for positive conclusions upon the question of stimulants. Several other important matters must be taken into consideration before such can be arrived at. One point only is claimed, namely that the St. George's death-rate is at least below the mean.

It is evident, also, from the table that alcohol has not been rigidly tabooed. A hard-and-fast line has not been drawn. Given, a patient dying of consumption, who can take or retain but little food, and expressing a strong desire for wine, this would certainly be prescribed; yet in this disease particularly am I convinced that it is not wise to order spirituous fluids, and for this reason,—once the habit of taking them is contracted, the desire for other far more nourishing food is rapidly diminished, and at length completely lost, the spirit alone being relied upon. Then the end comes quickly.

It has been found necessary also, to use brandy in certain cases immediately after admission. In those seriously ill, the fatigue of removal often causes almost fatal exhaustion. The brandy here obviously performs its most useful function—that of a palatable medicine.

Still more worthy of notice is the small quantity of malt liquor consumed. Less than a pint per day for the whole building has been required. Milk has been supplied in lieu of beer. "Where then is the economy?" will be the question probably suggested. Economy is not the sole object at which we have aimed, yet its presence may be ascertained by a little reflection. Among the inmates of every Pauper Infirmary may be counted some who are entirely malingerers,—many who are wilful exaggerators of trifling aches and pains. They have a strong incentive so to act, particularly in winter—since residence in a ward carefully kept at a comfortable

temperature, with hot dinners arriving punctually, and a complete absence of the smell of oakum, will leave but one thing needful to make them perfectly contented—beer. Withhold that—and they will be ready for discharge much earlier than they otherwise would have been.

Again—there is a large number sent in suffering merely from catarrh or cold, in some of its various forms. Supply these daily with ale, and it will be long before they admit that they are strong enough to return to work. I think I should fall short of the truth if I stated that the average number of patients would be increased ten per cent. if a pint of beer were added to each dietary. Supposing even that the number remained constant, the period in hospital would be lengthened. In this way therefore is economy demonstrated.

One or two facts in our year's experience may be deserving of mention. Prior to their removal to St. George's Infirmary, more than thirty old women had been bedridden for various spaces of time, ranging from one to seventeen years. They had all been supplied daily with brandy or beer, or both. The whole of them are now able to leave their beds. Many are able to walk about, some to work. Appetites have been developed for solid material; and an interest is once more taken in the "surroundings." I am compelled to ascribe this amelioration of condition to the altered moral state, greater physical energy, and improved food assimilation brought about by the withdrawal of alcohol. As an evidence of this better digestion it might be recorded that on the male side a demand arose for extra bread, although the dietary was slightly superior to the one used at the other Institutions. Another interesting item is that out of the fifty-nine nurses and female officers, no less than forty-eight commute their allowance of ale for an equivalent in coin, and this quite voluntarily.

ALCOHOLIC TREATMENT OF NEURALGIA.

By WM. B. NEFTEL, M.D., *New York.*

VERY frequently, persons suffering from severe neuralgias acquire the habit of alcoholic stimulants, which presents itself in two different forms. In cases where the attacks appear at long intervals, the patients intoxicate themselves to unconsciousness at the beginning of the attack, and for several days continue in that condition by taking more stimulants each time they arouse from it, and during the attack scarcely accept any food. They gradually recover, and remain healthy, perfectly abstaining from drink, until the next attack. This form may continue for years, until death is caused by pneumonia, cirrhosis of the liver, fatty degeneration of the heart, Bright's disease, or, still oftener, cerebral apoplexy induced by the degenerated cerebral blood-vessels. However, if the neuralgic attacks do not occur frequently, such patients may recuperate almost entirely during the intervals; but often, even if the neuralgic attacks entirely disappear in course of time, the habit of periodical intoxication remains, and brings the ultimate fatal result.

As far as my experience goes, periodical inebriety is generally developed by two morbid conditions, viz., periodical attacks of severe neuralgia, and periodical melancholia, and although these exciting causes may ultimately cease, the inebriety remains permanently. In periodical melancholia there is every reason to admit an anæmic condition of the brain, at least of certain regions, caused by a spasmodic contraction of the blood-vessels. The effect of alcohol counteracts it by producing a paralytic dilatation of the blood-vessels; thus temporarily relieving the morbid state induced by the vaso-motor spasm. Very probably similar conditions exist during the neuralgic attack.

The other form of alcoholic habit consists in the chronic poisoning of the system by the frequent or constant use of small doses. Its effect is often

more deleterious than even in the first form; it undermines the constitution, constantly increases the severity of the attack, and invariably leads to the incurability of the neuralgia.

Mrs. N., wife of a clergyman, thirty-eight years old, and formerly healthy, has been suffering for years with violent headaches. These attacks, which first appeared occasionally, soon became more frequent and more severe, and necessitated the use of large doses of morphia to produce complete narcotism. The pain was deeply in the back of the head and also behind the eyes, and often so intense that, to deaden it, she would strike her head against the wall. The after-effects of the morphia were exceedingly unpleasant, causing for several weeks a complete loss of appetite, of sleep, and strength, when a new attack would come on and leave the patient utterly prostrated. During the last years she scarcely had any intervals between the attacks, and ate almost nothing, and it was therefore often necessary to give her small doses of alcoholic stimulants to prevent fainting and collapse, which several times lasted so long as to threaten her life. I saw her for the first time January 31, 1872. She was greatly emaciated; the skin pale, with a yellowish tint, especially the conjunctiva; the pulse small, with irregular intermissions; the respiration slow; the abdomen sunken in; the liver of very small size; the spleen enlarged. She was subject to looseness of the bowels and sore throat. Her hearing was much impaired; she could not hear a whisper or the ticking of a watch, and besides, had tinnitus aurium—singing and roaring. The examination with the galvanic current showed hyperæsthesia of the auditory nerve, with reversion of the formula and paradox reaction of the unarméd ear. Under the influence of the cathode the noises ceased.

This patient was supported by

small doses of sherry, brandy, or whisky, as even the idea of food was sickening to her, and she had to make great efforts to swallow the smallest amount of anything. Being of a high moral character, she took the stimulants with repugnancy, to sustain life, at the recommendation of her physicians, in quantities of half a wineglass or more, and, though very often, yet with not the slightest intoxicating effect.

Neither the patient, nor her husband, nor even the attending physicians, suspected that these small doses of alcohol could be injurious or produce the constitutional effects of chronic alcoholism. But though the single doses were small and insufficient to cause intoxication, yet the quantity taken in twenty-four hours was very considerable, and the amount administered during the years of suffering was certainly enormous. In this case the alcohol was still more injurious, as it was taken with little food, and very often on an empty stomach. There was every reason to assume

there a considerable degree of cirrhosis of the liver, of fatty degeneration of the heart, and an atrophic condition of the nervous centres.

The described cases selected from a large number of similar ones, show that severe neuralgic affections often become complicated with a morbid habit of morphia, ether, chloral, alcohol, &c. Accordingly, great discretion is required in prescribing narcotics as palliatives in chronic neuralgias, and in case of necessity frequent changes have to be made, never allowing the same narcotic to be taken for any length of time. Even if the pain can be entirely controlled by some narcotics, constant efforts must be made to discontinue entirely their use by curing the neuralgia with some other means. This is especially to be borne in mind in cases of alcoholic habit, and I find it absolutely necessary to insist that such patients abandon altogether the use of alcoholic stimulants, which always leads to a fatal result.
—*New York Medical Record.*

—o—

LONDON TEMPERANCE HOSPITAL.

—At the annual meeting of governors, on Thursday, 29th May, under the presidency of Mr. Thomas Cash, the Rev. Dawson Burns, one of the honorary secretaries, read the annual report. It stated that during the year the medical staff had seen no reason to make use of the proviso in the rules which gave the medical officers power, if they thought fit, to make use of alcohol. With one exception alcohol had never been employed, and this indicated that the medical staff were perfectly satisfied that the non-alcoholic treatment had been beneficial to the patients. The number of in-patients treated during the year was 140, and of out-patients 6,655. The patients as in former years had been invited, but not unduly pressed, to make some pecuniary contribution to the funds, and this had resulted in £180—a sum considerably in excess of that received under the same head in any preceding twelve months. The receipts for the year ending March, 1879, were £1,591 13s. 8½d., and the

expenses left a balance in hand of £102 10s. 6½d. The total receipts, including those on account of the building fund, were £18,117, which sum included a profit of £422 on the investment of a portion of the money. The chairman said that the board of management did not intend to open the new hospital until it was free from debt, and he hoped the friends of temperance would kindly bear that in mind. They had now about £9,000 towards the building expenses, after paying for the site. When all the promises were fulfilled they would be short £1,800 to equip that part of the building on which they were now engaged. The receipts on general account had been in the first year £1,900; in the second, £1,800; in the third, £1,800; in the fourth, £1,700; and last year, £1,400. No doubt the appeal on behalf of the new building had affected the ordinary income; but there were special reasons why their friends should at this juncture be as generous as possible.

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CONTENTS.

ORIGINAL CONTRIBUTIONS.

	PAGE
A Leaf from my Note Book	105
A Theological View of Medical Abstinence	97
Alcohol in Hospitals and Asylums	18
Alcohol in the Treatment of Typhoid Fever	49
Intoxication in the Lower Animals	157
On some Substitutes for Alcohol in the Treatment of Fevers	55
On the Use of Alcoholic Liquors in the Menstrual Period	101
Post Partum Hæmorrhage—Its Causes and Treatment	149
The Alcoholic Sap and Mine	13
The Influence of Alcohol on Living Cells	61
The Medical Profession and the Temperance Cause	145
The Toxic Power of the Alcohols	I

PROCEEDINGS OF THE BRITISH MEDICAL TEMPERANCE ASSOCIATION.

Branch Meeting at Liverpool	79
Complimentary Breakfast at Cork	23
First Quarterly Meeting	19
Members Holding Public Appointments	84
New Members	28, 85, 165
The Annual Meeting	162
The Last Quarterly Meeting	66
The Spring Quarterly Meeting	109

MISCELLANEOUS COMMUNICATIONS.

A Fortnight in a Home for Inebriate Ladies	188
Alcohol in Fever	184
Alcohol in Health and Disease	86
Alcohol in Hot Climates	136
British Medical Association	30
Clinical Lecture on the Occasional Service of Alcohol in the Treatment of Pneumonia	171
Drunkenness as a Disease	114
Intemperance and its Causes	176
Moderate Drinking Condemned—A New Departure	179
On the Toxic Principles present in certain kinds of Whisky	166

	PAGE
On Alcoholic Vascular Tension, and its Effects	140
Post Partum Hæmorrhage	187
Preventable Mortality—The Mortality from Alcohol	92
Seven Years Work at the London Temperance Hospital	183
The Dietetic and Medical Use of Alcoholic Liquors	124
The Effect of Alcohol upon the Liver	139
The Habitual Drunkards Act, 1879	129
The Medical History of the Temperance Movement	39
The Relation of Alcohol to Bad Sanitation	134
The Structures of the Brain and the Effects of Alcohol upon them	119

NOTES AND EXTRACTS.

A Novel Aid to Diagnosis	142
Abstaining in Old Age	142
American Substitutes for Alcohol	96
Alcoholic Strength of Beer and Wines	143
Brain-work, Alcohol, and Tobacco	191
Cod-liver Oil and Alcohol	144
Does Alcohol aid Digestion?	142
Dr. B. W. Richardson on Narcotics	48
Dr. Beddoe on Alcohol	144
Drink and Sunstroke in India	192
Grocers' Licenses	191
Intemperance and Lunacy	142
Lesions of the Peritoneum in Drunkards	142
London Temperance Hospital	192
Non-Alcoholic Treatment of Children's Chilblains	143
Pauper Nurses and Stimulants	182
Registration of the Causes of Disease	96
The Bark Cure	48
The French Temperance Society	191
The Habitual Drunkards Act	48
Total Abstinence at Carmarthen Asylum	143

THE
MEDICAL TEMPERANCE JOURNAL.

October, 1879.

Original Contributions.

THE TOXIC POWER OF THE ALCOHOLS.

PRÉCIS AND REVIEW OF RECENT EXPERIMENTAL RESEARCHES ON
THE TOXIC POWER OF THE ALCOHOLS, BY DRS. DUJARDIN-
BEAUMETZ AND AUDIGÉ.*

By NORMAN KERR, M.D., F.L.S., *London.*

*(Read, by request, at a Meeting of the British Medical Temperance Association,
in the Rooms of the Medical Society of London, on 17th July, 1879.)*

THIS most interesting and painstaking series of experiments was undertaken with a view to settle the question propounded by M. Bergeron,† whether the origin of the alcohols exercises an appreciable influence on the nature and energy of their effects. Simple as this problem seems at first sight, its elucidation involves a wide and complicated field of research. The number of alcohols is legion, and modern chemistry is adding continually to the number, as well as constituting parallel series of them. Before undertaking any inquiry into the action of the brandies of commerce, it was indispensable to learn the action of the different alcoholic series, the more especially as Isidore Pierre had pointed out the presence, in all alcoholic drinks, in varying proportions, of these primordial alcohols.

The alcohols may be divided into two great classes, viz.:

* *Recherches Expérimentales sur La Puissance Toxique des Alcools*, par les Docteurs Dujardin-Beaumetz, Médecin de l'Hôpital Saint-Antoine, et Audigé, Lauréat de la Faculté de Médecine. Paris, Octave Doin, 1879.

† Rapport sur le Vinage (Bulletin de l'Académie de Médecine, Mai-Juin, 1870).

those manifesting in their combination a single atomicity, or the *Monatomic*, and those which have combinations much more complex, or the *Polyatomic*.

The first, or Monatomic, series present differences which indicate their arrangement into three principal groups. I. Alcohols having their origin in fermentation. II. Alcohols obtained either by distillation or by synthesis. III. Iso-alcohols, bodies which, though having the same formula as fermented alcohols, are, however, produced by synthesis.

The second, or Polyatomic, comprise the Diatomic alcohols, called by their discoverer in 1856, M. Wurtz, glycols; and the Triatomic, of which glycerine is a remarkable type. For the discovery of the Polyatomic alcohols we are indebted to modern chemistry, and especially to M. Wurtz* and M. Berthelot.†

Dujardin-Beaumetz and Audigé set themselves to establish, with reference to the more important alcohols : (1) their poisonous action when isolated and chemically pure ; (2) their effects when mixed in varying proportions. The greatest care was taken to have a guarantee, from the maker, of the genuineness, origin, and process of manufacture of each alcohol experimented with. The experiments, which numbered nearly 300, were made on dogs, and referred only to acute alcohol poisoning. The experimenters defined the limits of a poisonous dose to be the quantities of pure alcohols which, in proportion to the weight of the animal, are necessary to cause death in from twenty-four to thirty-six hours, with gradual and persistent lowering of the temperature. Pure alcohol they considered that which marked 100° C. (212° Fah.) with the alcoholometer of Gay-Lessac at the temperature of 15.5° C. (60° Fah.). The alcohol was administered in three states : (1) pure ; (2) diluted with water ; (3) diluted with glycerine and water ; and was introduced into the system (a) by hypodermic injection, and (b) by an œsophageal catheter into the stomach. The record of these experiments is most complete and methodical, every stage of the toxic action being fully noted ; and the authors have shown, by their unremitting observation and perseverance, their determination to invest these researches with the highest possible scientific value.

The monatomic series of alcohols from fermentation are represented by

Ethylic alcohol.
Propylic alcohol.
Butylic alcohol.
Amylic alcohol.

* Ann. de chim. et de phys. t. lv., p. 400.

† Ann. de chim. et de phys. t. xli., p. 216.

Ethylic alcohol C^2H^6O , the alcohol of fermented wine, is the best and longest known, Arnaud de Villeneuve, in the fourteenth century, showing the principal means of preparing it, and Raymond Lulle, in the fifteenth century, being the first to concentrate it. Its density at $15.5^{\circ} C.$ is 0.7939, and its boiling point at the pressure of 760 millimetres (30.005 inches) is at 78.4° (about $173^{\circ} F.$).

In enumerating the modern physiologists who have minutely investigated the action of the alcohols, the authors have inadvertently placed Dr. B. W. Richardson four years after M. Magnan. This error has evidently arisen from their ignorance of Richardson's original researches, having before them only the seventh edition of the Cantor Lectures on Alcohol, published in 1875,* Magnan's work† having been published in 1871. Richardson, however, had presented his reports at the annual meetings of the British Association for the Advancement of Science, at Birmingham in 1865, at Dundee in 1867, and at Exeter in 1869.

Lussana and Albertoni‡ determined 6 grammes (nearly 93 grains) per kilogramme (nearly $35\frac{1}{4}$ ounces) of the weight of the body, as the quantity of ethylic alcohol necessary to cause death, when administered by the stomach. Pelletan§ in 1825, Fürster|| in 1845, Schlossberger,¶ Mitscherlich, Brown-Sequard, Jackson, Cros** Rabuteau,†† and Dogiel‡‡ have all conducted more or less extended inquiries into the action of the oil from potatoes, or the various fermented monatomic alcohols. Richardson,||| however, in 1865 reported the first series of experiments which were extensive and scientific enough to accurately define the differential toxic influence of all these bodies.

Dujardin-Beaumetz and Audigé made forty-two experiments with ethylic alcohol. Under 2.34 g. per kilogramme of the weight of the body only passing phenomena were induced. The animal

* Cantor Lectures, 7th ed. Lond., 1875.

† Etude expérimentale et clinique sur l'alcoolisme. Paris, 1871.

‡ Sull'alcool, sull'aldeide, e sugli eteri vinici. Padoua, 1874.

§ Journal de chimie médicale, 1^{re} série, t. i., p. 81.

|| Journal de chimie médicale, 3^{re} série, t. i., p. 425.

¶ Annalen der Chemie und Pharmacie, t. lxxiii., p. 212.

** Action de l'alcool amylique sur l'organisme, thèse de Strasbourg, 1863, 2^e série, No. 646.

†† Union médicale, 1870 : Eléments de toxicologie, p. 190, 1873.

‡‡ Dogiel (Russian physiologist). Comptes rendus de l'Académie des Sciences, séance du 11 Novembre 1875, p. 631.

||| Reports of the British Association. Lond., 1865, 1867, 1869.

exhibited fear, dulness, semi-consciousness, fled from one in terror and roamed round the room. The temperature did not fall more than six-tenths. In five hours the initial temperature was restored and the animal had returned to the normal state.

With 6·18 g. per kilogramme the symptoms were more pronounced. In twenty minutes the animal could not stand, it tottered, and the posterior extremities were paralyzed. The temperature fell nearly 2°. Death occurred at the end of some days, with stripping of the skin from the caustic action of the alcohol. With 8 g. per kilogramme the dog succumbed in 36 hours, the temperature having gone down, when lowest, nearly 5½°.

Dilution with water added very greatly to the poisonous properties of ethylic alcohol. The following table presents, at a glance, the effect of various degrees of dilution :—

Quantity of alcohol per kilogramme of the weight of the body.	Proportion of water in the mixture of alcohol and water.	Greatest decrease of temperature.	Length of time before death took place.
		Degrees.	
5·36 g.	60 per cent.	12	3 days
6·16 g.	60 "	6·3	36 hours
6·57 g.	65 "	2	36 "
6·62 g.	56 "	3·3	38 "
6·63 g.	60 "	4·5	43 "
7 g.	73 "	2·2	3 days
7 g.	67 "	15·2	20 hours
7·01 g.	73 "	11·6	2 days
7·04 g.	64 "	5·7	10 hours
7·09 g.	71 "	3·8	36 "
7·24 g.	65 "	4·7	48 "
7·27 g.	70 "	2·4	50 "
7·49 g.	57 "	4·2	36 "
7·50 g.	70 "	5·1	48 "
7·55 g.	60 "	11·3	50 "
7·60 g.	70 "	5·1	20 "
7·80 g.	60 "	12·8	30 "
7·83 g.	70 "	13·4	30 "
7·84 g.	65 "	14·9	24 "
7·95 g.	60 "	15·7	30 "
8	67 "	12·2	18½ "
8	67 "	16·2	32 "
8·53 g.	60 "	18·4	12 "
14·24 g.	55 "	·5	3 " 20 m.

This increase in the toxic power of ethylic alcohol, when diluted with water, may be accounted for by the more rapid and complete absorption of the poison than when it is administered pure and undiluted. The local caustic action on the skin and surrounding tissue in hypodermic injection, and on the mucous membrane of the œsophagus and stomach in administration by the mouth, probably hinders both the rate and the extent of the absorption.

Dilution with glycerine and water added still more to the toxic properties of this alcohol, death occurring in 40 hours, with 6 grammes per kilogramme of the weight of the body, with a decrease in temperature of $4\frac{1}{2}^{\circ}$; in 24 hours with 6.35 g. with a decrease of 11° ; and in 39 hours with 7.20° with a decrease of nearly 5° . A considerable part of this last additional toxic power is attributed, by the authors, to the poisonous properties of glycerine.

Many of the apparent eccentricities in the influence on the temperature and the degree of toxic action, are to be attributed to the varying resistance offered by the individual animals. As in man, the young and tender on the one hand, and the aged and worn-out on the other, have less power to withstand the alcoholic attack than the fully developed and the robust.

The marked effect of cold, in several instances where the animal was exposed to a very low temperature, in increasing the death power of alcohol, strikingly confirms the accuracy of Richardson's conclusions in 1869, and amply justifies that author's enforcement of the necessity for keeping up the temperature in persons labouring under alcoholic coma.

The remounting of the temperature, which sometimes occurred after a fall in acute alcoholism of 11° , to and even beyond the normal figure, finds its explanation in the fact that, if the absorption of alcohol has arrested momentarily organic combustion, this combustion has been renewed in exact proportion to the elimination of the poison.

Ethylic alcohol was introduced into the stomach through an œsophageal catheter, in four cases. Death followed in each case; after 5.51 g. per kilogramme in 27 hours with a decreased temperature of 7° , after 5.65 g. in $2\frac{1}{2}$ hours with a fall of $3\frac{1}{2}^{\circ}$, after 6.25 g. in 13 hours, with a fall of 6° , after 6.56 g. in 8 hours, with a fall of 7.8° .

Propylic alcohol, $C^3 H^8 O$,—discovered in 1852 by Chancel (heavier, more pungent in odour, and more oily in taste than the ethylic)—dissolves perfectly in water, has at $15.5^{\circ} C$. a density of 0.8120, and boils, at the ordinary pressure, at $98^{\circ} C$. (about $208^{\circ} F$ ah.). It is obtained by the fractional distillation of brandies from the marc. Death took place, with 3.18 g. and 3.25 g. per

kilogramme, only after some days; with 4 g. in $7\frac{3}{4}$ hours, with a decreased temperature of $16\cdot8^0$; and with 4·54 g. in 12 hours, with a fall of 15^0 . Diluted with water, and also with glycerine and water, the poison acts more vigorously, so that while the mean toxic dose, when given pure, was from 3·80 g. to 3·90 g. per kilogramme, previously diluted with a liquid capable of diminishing its caustic action, 3·70 g. to 3·75 g. sufficed to produce a fatal result.

Butylic alcohol, $C^4H^{10}O$ —first extracted from the oil of potatoes (fusel oil) by Wurtz in 1852—is little soluble in water. It has a strong odour and an intense burning taste, and has the property, first noticed by Richardson in 1869, of producing local anesthesia. It boils at 109^0 C. (about 230^0 Fah.), and presents at $18\cdot6^0$ C. a density $0\cdot8032$. This alcohol the experimenters found to be a much stronger poison than the ethylic. While to cause death in from two to three hours from the latter, they had to give nearly 15 g. per kilogramme, they attained the same result from 3 g. of the former. The mean toxic dose of butylic alcohol was found to be from 1·80 g. to 1·85 g. per kilogramme. So virulent and rapid is this poison, that 2 g. per kilogramme caused death in eight hours, with a decrease in temperature of 16^0 .

Amylic alcohol, $C^5H^{12}O$ —obtained from the fermentation of potatoes, beet, and other substances, and the distillation of the oil—is found in great quantities in the brandies from these origins. It was made known by Scheele in 1775, boils at 130^0 C. (about 267^0 Fah.), and at $15\cdot5^0$ presents a density of $0\cdot8184$. When pure it is insoluble in water and dissolves only in alcohol and ether. It has a nauseous, burning taste, and a very pungent odour. This is a still stronger poison than any of the preceding alcohols, and is often present in whisky and other spirits. The mean toxic dose, when injected pure, was 1·70 g., and when mixed with glycerine 1·50 g. From 1·66 g. per kilogramme by the skin, death followed in between five and six hours, with a fall of 10^0 .

The monatomic alcohols, not fermented, comprise, amongst others, *methyl alcohol* CH^4O , obtained in 1812 by Taylor from the dry distillation of wood, and *acetone*; the latter being generally found with the former. The methylic has a smoky taste, and mingles with water in all proportions. It boils at $66\cdot5^0$ C. (about 151^0 Fah.), and its density is $0\cdot8136$ at $15\cdot5^0$ C.

After Cros,* who in 1863 recorded a few incomplete experiments, our illustrious president, Dr. Richardson,† was the first to institute an elaborate research into the physiological and toxic

* Action de l'alcool amylique sur l'organisme, 1863, p. 35.

† Report of British Association, 1867.

action of this alcohol. Rabuteau,* Dron,† Bergeron,‡ and Viger,|| have ably followed up the inquiry.

With the ordinary wood spirit, such as is to be found in the manufacture of chemical products, death is rapid, happening in from ten to twenty hours, when from 5.55 g. to 5.92 g. per kilogramme is administered, with a considerable lowering of temperature. Dujardin-Beaumetz and Audigé put the toxic dose limit at 5.75 g. Wood spirit, rectified by dry carbonate of potash, induced death in fifteen to eighteen hours with doses of 5.81 g. and 5.84 g., so that there is no sensible difference between this and the ordinary methylic alcohol. But when this alcohol is prepared with extreme care its poisoning power is somewhat lessened, the toxic limit being 6.15 g. Taking methylic alcohol as a whole, the mean toxic limit was determined as 7 g. per kilogramme. The poisonous strength of methylic is thus greater than that of ethylic alcohol, the toxic dose limit of the former being 7 g., and of the latter 7.75 g. per kilogramme. Richardson found the methylic to be less poisonous than the ethylic; but this difference in result may have arisen from his having narcotised with the vapour, whereas the French *savans* injected the alcohol under the skin. Besides, it is exceedingly difficult to procure methyl alcohol pure. There generally comes over with it an intensely noxious substance.

Acetone, a common impurity of wood spirit, C^3H^6O under the pressure of 760 millimetres, boils at 56^0 C. (133^0 Fah.), and its density at a temperature of 18^0 C. (65^0 Fah.) is 0.7921. 5.22 g. per kilogramme killed in four and a-half hours, with a fall of nearly 20^0 . The limit dose of this poison oscillates about 5 g., so that it is easy to comprehend how, when it is found in the wood spirits of commerce, it augments the poisonous power of these.

Caproic alcohol, $C^6H^{14}O$; œnanthylic, $C^7H^{16}O$; caprylic, $C^8H^{18}O$; capric, $C^{10}H^{22}O$; cetylic, $C^{16}H^{34}O$; cerotic, $C^{27}H^{56}O$; and myricic, $C^{30}H^{62}O$, are also non-fermented monatomic alcohols. Œnanthylic alcohol, which was separated by fractional distillation from the marc of the grape by Faget in 1862, is insoluble in water, but soluble in alcohol and ether. Boiling point between 155^0 C. (302^0 Fah.) and 179^0 C. (317^0 Fah.). Density 0.819 at 23^0 C. (75^0 Fah.). The toxic limit is about 8 g. Caprylic alcohol exhibits much the same lethal power as œnanthylic, and the toxic limit varies between 7 g. and 7.50 g. per kilogramme. Cetylic

* Elements de toxicologie, 1873.

† Des dangers de l'emploi de l'alcool méthylique dans l'industrie. (Lyon medical, Février, 1874, p. 152.)

‡ Rapport des travaux, du comité consultatif d'hygiène de France, t. iv. 1875.

|| Journal de la Société de Médecine de Caen et du Calvados, Juin, 1877.

alcohol, a solid body, is so insoluble that it exhibited but scanty poisonous qualities. A mixture of œnanthylic and caprylic with ethylic alcohol makes the action of the last-named poison greatly more intense.

The iso-alcohols are, isopropylic, C^3H^8O , isobutylic, $C^4H^{10}O$, and isoamylic, $C^5H^{12}O$, forming a group discovered quite recently. Isopropylic was the only one experimented with. At 15^0 it marked 96.8^0 , with the alcoholometer of Gay Lessac and had, for density, 0.810 . Boiling point between 86^0 C. (187^0 Fah.) and 88^0 C. (190^0 Fah.). It is the product of the laboratory, is prepared by the action of hydrogen on acetone, and is enormously expensive. Though having a different origin from propylic alcohol, it has almost the same physiological action, and the toxic dose limit is about 3.75 g. This similarity of action to that of an alcohol with the same atomic constitution would point to the conclusion that, where two alcohols have identical formulæ, their origin does not appear to have any sensible influence on their poisonous action.

The Diatomic alcohols, discovered by M. Wurtz in 1856,* have been called by him glycols, and occupy a middle place between the monatomic and the triatomic alcohols. The most remarkable type of the latter is glycerine. This is a constant product of alcoholic fermentation, and is always found in fermented drinks.† It is a strong poison (the toxic dose limit being 8.50 g. to 9 g. per kilogramme) when the lethal dose is taken at once; but the same quantity taken in divided doses at different times during the day resulted in no serious inconvenience. A friend of mine, on the other hand, was in the habit of taking two ounces at once, frequently several times in a week, for a whole winter, and suffered no discomfort from the practice. He took these large doses of glycerine in the belief (sadly belied by the result) that it was a specific for neuralgia.

The derivatives of the monatomic alcohols consist of aldehydes and ethers.

The only member of the former group experimented with was acetic, or vinous aldehyde, C^2H^4O , as this is the only one met with, in any appreciable quantity, in alcoholic drinks. Boiling point between 21^0 C. (70^0 Fah.) and 22^0 C. Soluble in water, alcohol, and ether. The only previous experimenters were Lussana and Albertoni.‡ Acetic aldehyde is one of the most violent poisons, and its toxic dose limit is 1 g. per kilogramme.

* Ann. de Chine et de Phys., t. lv., p. 400.

† Dujardin-Beaumetz and Audigé, p. 160.

‡ Sull'alcool, sull'aldeide et sugli eteri vinici (Lo sperimentale, Décembre, 1874, p. 753 et suivantes).

Acetic ether boils at 74° C. (165° Fah.), and is soluble in water, ether, and alcohol. Its toxic dose limit is 4 g. per kilogramme. Its action is similar to that of aldehyde, but the toxic symptoms are longer in their evolution.

The authors found that the alcohol of the fine wine of Montpellier possesses a greater poisonous power than chemically pure ethylic alcohol, the figure of 25 centigrammes expressing the difference.

Alcohol from the marc of the grape, which is frequently met with in brandies, is still more poisonous than the alcohol of Montpellier wine, the toxic limit being 7.30 g. per kilogramme.

The toxic limit dose of rectified alcohol from corn, occurring largely in whisky and gin, is 7.15 g. per kilogramme; and the corresponding dose of alcohol from the phlegms of corn, also predominating in these ardent spirits, is 6.96 g.

The poisonous properties of the alcohols and brandies from potatoes is very great. The limit doses of the alcohol of the phlegms is from 6.80 g. to 6.90 g. per kilogramme; and the more highly it is rectified the less powerful does it become, till, ten times rectified, its fatal dose is from 7.35 g. to 7.40 g.

Toxic lesions.—The *post mortem* appearances, after acute poisoning by ethylic alcohol, are well marked. The liver is congested; and its tissue, soft and friable, is the seat of profound disorganisation. The mucous membranes of the stomach and intestines are red and injected, and present at various points a blackish colour, due to effused blood. Occasionally the lungs are hepatised or softened, and the vessels are always gorged with black blood, which escapes abundantly on incision. The heart is filled with blackish clots, varying in size, and the walls have entered on the first stage of fatty degeneration. The meninges are highly congested, and the vessels of the brain are, in all cases, distended by black and thick blood, the ventricles frequently being full of serum. To this I may add, from my own observation, that at times the brain substance seems studded with minute red dots, the evidence of congestion of the entire cerebrum; blood is frequently mingled with the serum in the ventricles; the blood in the brain and other vital organs is sometimes thick, sometimes fluid, sometimes semi-fluid; and the congested gastric venous system often presents a tree-like appearance (seen almost invariably in chronic alcoholism), known as *arbor vitæ*, though it might appropriately be designated *arbor mortis*. The congestion and irritation of the mucous membrane of the stomach are in inverse ratio to the dilution of the spirit. The blood corpuscles are shrunken, and, having lost their natural rounded form, present a great variety of abnormality in outline.

Propylic, butylic, and amylic alcohols, give rise to exaggerated

forms of similar after-death appearances. The liver, pressed between the fingers, tears and presents the appearance of a blackish soup. The congestion of the intestines is more marked, with hæmorrhagic spots in the duodenal portion, and often also in the great intestine. Sub-arachnoid hæmorrhages are far from rare. The characteristic pathological appearances in the intestines may be accounted for by the elimination of a portion of the alcohol through the intestinal glands. The disorganisation of the duodenum may arise from this portion of the intestinal tube suffering directly, by contiguous sympathy, from the blocking of the hepatic circulation; and the anastomoses which unite the portal system to the vena cava, and of which the principal are constituted by the hæmorrhoidal veins, perhaps account for the extravasation of blood in the great intestine. Administered by the stomach, these alcohols not unfrequently give rise to patches of pulmonary apoplexy.

In animals poisoned by methylic alcohol, and also those poisoned by acetone, the acute degeneration of the liver, and the hæmorrhagic congestion of the intestines, of the kidneys, and of the cerebral system, are much more marked than in poisoning by ethylic alcohol.

In poisoning by œnanthylic and caprylic alcohols, in addition to the preceding appearances, bloody urine is found in the bladder, accompanying hyperæmic congestion of the kidneys.

In poisoning by glycerine the appearances are very marked indeed. The liver is of a deep brown colour, and its rotten tissue crumbles to the touch. The intestinal mucous is the seat of very extensive hæmorrhages, the kidneys are hyperæmic, and the bladder frequently full of blood. There is very marked emphysema of the lungs, and the cavities of the heart are filled with black and thick blood. The nervous centres are congested throughout, the congestion being in direct proportion to the intensity of the convulsive phenomena and the rapidity of the death. Glycerine has, in virtue of its chemical properties, been classed among the alcohols, and its toxic action, with the *post mortem* appearances, amply justify this classification.

In many cases of acute alcohol-poisoning the spleen has been found gorged with blood and softened, the pancreas partaking in the congestion of the duodenal portion of the intestine.

Toxic phenomena.—The authors apportion the phenomena of acute alcoholism into three periods—(1) of drunkenness, (2) of resolution, (3) of collapse. Their first period includes the first and second stages of the four into which Richardson has divided the same phenomena. These periods undergo modifications dependent on the nature of the alcohol, the dose, and the resistance of the subjects.

Methylic is more lively and speedy in its action than ethylic alcohol. Resolution and collapse set in more rapidly, but in cases not fatal recovery is much quicker also. Tremors accompany the advanced stage of amylic and butylic alcoholic intoxication. With œnanthylic and caprylic alcohols, and still more with glycerine, convulsive phenomena are associated. With all but glycerine there is considerable lowering of the temperature.

Ethylic alcoholism.—In the first stage of excitement the animal cannot rest, it rushes about in all directions; the pupils are dilated and the pulse and respiration accelerated; then the animal staggers like a drunken man and falls almost at every step. At this point vomiting generally takes place. In the second stage of muscular resolution paralytic phenomena set in, commencing in the muscles of the posterior limbs and gradually creeping over the anterior. Here the temperature goes rapidly down, and salivation is produced. From this the animal passes on to the third stage of collapse, when there is absolute insensibility to pain, the loss of consciousness, and complete inability to execute even the least voluntary movement. The temperature still falls, the respiration becomes diaphragmatic, laboured, and very slow, till, after a few convulsive spasms, death closes the scene.

Differential alcoholic phenomena.—The other alcohols differ mainly from the ethylic in the rapidity of the evolution of the phenomena, and the intensity of these. All the symptoms are more vivid as well as more immediate in their development, the temperature especially going down further; but, on the other hand, in cases not ending in death, the toxic symptoms more rapidly disappear and the animals recover in a much shorter period. With propylic butylic and amylic alcohols, well marked muscular tremors are the rule, but they are the exception in poisoning with ethylic alcohol. These tremors were observed and recorded by Richardson in 1865. Methylic alcohol is peculiarly rapid in the production of its toxic phenomena, and causes an extreme and characteristic loss of vital heat. Though Dujardin-Beaumetz and Audigé have obtained somewhat different results from Richardson (they finding the methylic more potent, he finding it less potent, than the ethylic), they endorse his classification of this methyl alcohol among the ethers and chloroform. They think that to acetone is due much of the potency exhibited by wood spirit, the former being even more lively and rapid in its action than the latter. Convulsions and tetanic spasm are also the effect of acetone. Convulsions, pervading all the muscles, are specially symptomatic of œnanthylic and caprylic alcohols, and with these there are generally, instead of cerebral excitement, sadness sleep and dulness.

Though glycerine possesses intense toxic power it rarely causes

drunkenness. Convulsive trembling, taking the character of the tetanic spasms induced by strychnia, indicate a lesion of the spinal marrow. In poisoning with glycerine the dryness of the mucous membranes attains a degree of intensity which one finds with no other alcohol, arising probably from the hygrometric properties of the toxic agent which, penetrating the blood, absorbs the greater part of the water found there. There is little, if any, lowering of the temperature in glycerism, and this may be accounted for by the theory of Catillon, that the glycerine undergoes complete combustion in the lungs, the amount of CO_2 expired increasing in proportion to the largeness of the dose. Dujardin-Beaumetz and Audigé believe that the difference between the effects of glycerine and those of the ordinary alcohols is occasioned by the one being almost wholly, and the other only partly, burnt.

Acetic aldehyde is a most virulent poison, its intensity in the stage of excitement and the occurrence of convulsive phenomena indicating a special elective action on the nervous system. Contrary to the opinions of Lussana and Albertoni,* the authors whose work we are now reviewing believe, from their experiments, that acetic ether is a manifestly poisonous substance, and that when found in alcoholic liquids it plays some part in the production of the baneful consequences.

The power of ethylic alcohol is emphatically augmented by the presence of other alcohols. Propylic has an action at least double that of ethylic, and that action is quadrupled and even quintupled when there are added to it butylic and amylic alcohols.

Conclusions of Dujardin-Beaumont and Audigé.—The reporters, as the result of their researches, have arrived at the conclusion that ALL THE ALCOHOLS ARE POISONS.

They are also of opinion (which is, with a single exception, supported by their results) that the intoxicating power of alcohols having the same origin is intense in proportion to the complexity of the atomic constitution.

They are convinced that the aldehydes and acetic ether, which are endowed with more intensely poisonous properties than ethylic alcohol, greatly increase its potency; and that acetone unmistakably aggravates the poisoning effects of methyl alcohol.

The reporters are satisfied that ALL THE ALCOHOLS AND BRANDIES OF COMMERCE are poisonous, and that their noxious influence depends both on their origin and purity. The least harmful of all the alcohols are, in their opinion, the alcohols of wine. More hurtful are the brandies from perry. More destructive still are the brandies from cyder and from the marc of the

* *Loc. cit.* p. 785.

grape. Still stronger are those from beetroot. The alcohols and brandies from corn are more virulent than those from beetroot, and the alcohols and brandies from potatoes are the most noxious of all.

Though the alcohol of wine is the least harmful because it almost exclusively consists of ethylic alcohol, which is the least poisonous of the series, our authors admit that this is rarely, if ever, found pure. The existence of varying proportions of caprylic, œnanthylic, propylic, and other products of oxidation in the brandies in the marc of grapes, cyder, and perry, explains the superior toxic power of these alcoholic drinks compared with the brandies of wine. It was particularly in the spirits from corn and beetroot that Isidore Pierre found propylic, butylic, and amylic alcohols, and this accounts for their especial danger. The alcohols and spirits from potatoes are the most deadly of all the spirits of commerce, simply because they contain essential oils which are composed mainly of butylic and amylic alcohols. It is more than probable that we owe delirium tremens in man mainly to these heavier alcohols, they inducing analogous symptoms in the lower animals.

Reviewer's conclusion.—It is contended by Dujardin-Beaumetz, Audigé, Bouchardat, Fauvel, Michel Lévy, and others, that as ethylic alcohol (the alcohol of fermented wine) is the least fatal, the sale of all the other alcohols should be suppressed. But it seems to me that the most logical and wisest course would be the personal disuse and State prohibition of *all the alcohols*. They are, confessedly, all poisons, some being more deadly than others; and is it possible that the teachings of science, or the dignity of our profession, any more than the calls of patriotism, humanity, morality, and religion, can prove that we are wrong when we totally abstain from the wholly unnecessary social use of all such poisonous luxuries?



THE ALCOHOLIC SAP AND MINE.

BY A GENERAL PRACTITIONER.

It is our present purpose to glance briefly at a history where a strong natural repugnance to alcoholic stimulus in any form stood in the van of defence. How that first defence was broken through, and, once broken, how, inch by inch, step by step, the foe crept on; how, one after the other, the inner lines of the virgin fortress were surrendered—it is my business to show. In

order, at once, to dispose of the possible cavil that I could not know with precision the earlier lines of the narrative—inasmuch as the case in question was not my own originally—let this be the answer: first, that the case did eventually come under my personal observation and guidance; secondly, that, as to its opening chapter, my informant is the patient herself. The story she told me, in one of her, unhappily, brief and infrequent intervals of bitter remorse, I have every reason to regard as strictly true. I knew her when a child; knew her through girlhood up to womanhood; and I also knew that her original conditions of conduct were those of such absolute sobriety—being, in fact, a total abstainer from no outer laws, but through individual instinct and election—that, in respect of this same exceptional temperance of hers, she became quoted among her relatives, friends, and acquaintances as a pattern, a peculiar type—“a singular girl”—“a girl much to be admired,” &c., just as fancy, opinion, or appreciation dictated.

I turn now to my memoranda:—“V. O.”—a young lady, for the most part very healthy, yet of slight figure, though by no means sparsely-formed. Somewhat delicate in appearance, with that extreme fairness of skin indicating, in women, a highly-sensitive and impressionable nervous temperament; was regarded, at the age of nineteen, by those responsible for her welfare, as standing in need of medical advice. That she was, as the phrase goes, “out of health,” I believe, may be taken for granted. But there was nothing to be more than commonly anxious about. There certainly was a languor and a lassitude, till now, strange to her; she was more quickly fatigued by any ordinary exertion, and the appetite scarcely reached its old level. Yet, having said that, the symptoms of *malaise* are fairly summed up—symptoms not to be disregarded, of course, as they may mean a good deal of coming mischief; but, as far as the other sex are concerned—given a constitution primarily safe—they are just as likely, more likely than not, in fact, to mean very little. That they meant very little here, the after-history abundantly proved. “V. O.’s” growth in stature during her school-days had been rapid, and this growth had, subsequently, been continued much longer than is usual. The growth having come to an end, so did the languor and the lassitude, the sense of bodily fatigue, and the loss of appetite. That outcome would have been highly satisfactory to all interested in her had not one, hitherto an utter stranger to “V. O.,” one of whom she had so often spoken with persistent aversion, put in an appearance—much to her relatives’ wonderment—as a friend and counsellor. That friend and counsellor was—Alcohol!

How came about a state of things so unlooked for and dis-

tressing? There was a blunder to begin with. At the very outset of his examination and treatment the physician consulted committed the grave error of making a mountain out of a mole-hill. Instead of taking the very simple case on its real merits he made it a solemn parade. He "Hum'd" and "Hah'd" over his patient ponderously. "There certainly" was "no lung complication—as yet; still there" was, "notwithstanding, a degree of weakness" he "could wish absent. The respiratory murmur was scarcely what" he "could desire," &c., &c." Now, the inevitable consequences of this weighty exordium was to excite alarm—not on the part of "V. O." herself, who, on the contrary, was, to use her own word, much amused over the "fuss"—but on the part of her friends. The way being paved for impressive admonition, such admonition was presently supplied. Certain dietary rules having been laid down, regulations as to hours, exercise, and so forth—all very well in their way—the colloquy proceeded after this fashion:—"You never take wine, I understand?" "I dislike wine and all things of that kind exceedingly." "Ah, but really you must try to like wine now; you require wine; port, for example; a couple of glasses during the day will in my opinion be of great benefit." "Oh pray don't say that, Dr. —; I can't bear wine; I am sure I don't want it. Besides, I've always done without it so far. Why should I begin now?" "You have been able to do without it because then you were not ailing; the case is altered; in my view wine is essential." "I don't like wine." "My dear young lady, need I say there are many things in this world unpleasant, yet necessary." More or less defenceless against this masterly logic, what was "V. O." to do except to fall back with feminine iteration upon her repugnance to stimulants? "But Dr. —, I dislike such things more than I say; in fact I detest them! I am sure they will do me harm!" Whereupon a remonstrance from another quarter:—"My dear, my dear, Dr. — surely knows best. Why did we come to him for advice unless we intended to follow it implicitly?"—More masterly logic, you see. Thus pinned in a corner, assailed on both sides, her only plea—very illogical, doubtless, but nevertheless an instinct it had been well to trust—put aside as naught, how could the poor girl act? How otherwise than, in the end, to consent—reluctantly enough, she told me, and with some display of vexation. Even to the last she stood at bay; feebly, of course, masterly logic being considered. "I'm *sure* the wine will do me more harm than good," said "V. O." defiantly. Very pertinacious and wilful of "V. O." was it not, still to confront the celebrated Dr. —? Very absurd of her to flourish her little toy sword against the keen, highly-polished weapon, of so skilful a healer!

And thus was begun the alcoholic stimulation of a highly-sensitive and quickly-awakened temperament. Did the wry faces which in her earlier experience "V. O." made at the wine continue? For a time—yes; but not by any means so long as—her antecedent aversion being remembered—might reasonably have been expected. On the contrary, her distaste was overcome with much greater ease than was anticipated. Very soon, instead of dislike came liking, liking so positive as to arouse hereafter surprise on the part of her friends—surprise not unmixed with anxiety. And here I may say, in passing, that, judging from several instances coming under my own observation, when strong repugnance to alcoholic stimulants is once removed, you have more often than not a rebound in the opposite direction. The reflections suggested by this remarkable contrast of present and past—a contrast well known to those who have watched the history of such cases—are too patent and forcible for lengthy disquisition, they declare their own meaning. In the face of their lesson who, with any desire to extend the benefit of his sagacity and justice to a fellow-creature, to say nothing of justice to himself, will not refuse to take upon his own shoulders the responsibility of overthrowing their fellow-creature's primitive order of conduct?

But I return to the story I am telling, The first knowledge I personally had of mischief ahead for "V. O." was upon an occasion when, visiting at her parents' home, I noticed upon some very slight pretext a petulant reply to her mother, so singularly uncalled-for and irascible, as to deserve the condemnation of downright rudeness. "V. O.," leaving the room shortly afterwards, her mother—who had made little or no reply to the outbreak, desirous, evidently, to excuse her daughter for a display of temper which must necessarily (knowing "V. O.," as I formerly did to be a most gently-natured girl) astonish me—said:—"Poor 'V,' she did not mean that, of course. You know how amiable she is. It's the wine I suppose." "The wine?" I inquired. "Yes—it must be that. She is often a little pettish after her wine. She could not bear it at first, but now she is quite content to take it. In fact, she quite likes it. She is altogether better in health. Dr. —'s treatment has done wonders for her." Some further conversation having ensued, I ventured to hazard the opinion that, whatever the improvement in physical health it was much to be regretted that one of the aids employed—the wine in short—should, on the mother's own showing, tend to an upset of those graces of manner hitherto so charming a feature in her daughter's character. "You know," I concluded, "that I am not a total abstainer, therefore you will at once acquit me of what some might choose

to call fanaticism against stimulants ; yet I cannot but feel it my duty as a friend to point out to you that the physical advantage gained to your daughter by the wine is quite overbalanced by the mental disturbance it induces. Besides, you say she now likes the wine. She must be very careful that she does not like it too much.” “What do you mean?” “Well, there is a bare possibility”—I put it as delicately as I could for obvious reasons—“that she might take rather more than is prudent.” “Oh, if you mean that she would ever exceed proper limits, you are quite in error.” “V. is incapable, thoroughly incapable, of such a disgraceful proceeding.” From the mother’s manner in saying this clearly she was up in arms. Obviously I could not pursue the subject. I had said what, as an old friend, I thought it was my duty to say. Further urgency was out of the question. “Of course,” I replied, “my thought is only the barest supposition ; for her such a miserable climax could scarcely be. Yet these things unhappily have occurred even with natures and dispositions as graceful and gentle as hers.”

Yes, and even as with others, so it chanced with *this* graceful and gentle one. To the horror of her parents she little by little became a drunkard. There is no other word for it—a drunkard ! Not content with surreptitiously obtaining what stimulants were to be had in her own house, she would not only spend most of her pocket-money in wine and spirits—for now she had supplemented port and sherry with gin and brandy—but she would even bribe the servants to procure her needs. The physician whose alcoholic advice had started her on the down-hill path was again consulted. He strove to lay the Frankenstein he had raised. He came and he reasoned, and he shook his head gravely, and he talked much “goody, goody ;” but that was all. No permanent benefit accrued from his visitations.

By-and-by I myself had charge of this lamentable case, but I, too, was powerless. For of what real service to drunkards is it to raise them from a bed of sickness when (with returning health, and forgotten remorse) the old demon is once more taken into service ? It was thus with poor “V. O.,” who presently drifted as it were away out of immediate ken. But I heard of her subsequently and always as, more or less, a drunkard. Three years after her initiation into the wretched family of the intemperate she was married. There was for a short time after this a better state of things. Yet all the old misery came once more. Her husband, who when in the days of his courtship had suspected nothing of the dangers ahead, eventually found that the mistress of his house, the mother of his children was—a confirmed drunkard !

Shall I waste words in moralising on this terrible case ? Need I tell those who seek, upon any pretext, to turn the old pure

current of absolute abstinence into the strange waters of partial indulgence, that in giving a mere fancied advantage they are running the fearful risk of arousing a sleeping depravity. Is the game worth the candle? Will any thus dare open the trenches of the alcoholic Sap and Mine?



ALCOHOL IN HOSPITALS AND ASYLUMS.

THE thanks of the community are due to Dr. Webster, Medical Officer of St. George's Union Hospital, Hanover Square, for the able and conclusive report on the non-alcoholic treatment of disease which he recently presented to the Guardians of his parish, and which was published in full in the last number of the *Medical Temperance Journal*. Dr. Webster's report has been extensively discussed in a friendly spirit by the editors of several influential newspapers, as well as by the medical journals, and has attracted the attention of Boards of Guardians in all parts of the kingdom.

A paper has been circulated amongst the Governors of St. George's Hospital, showing the quantity and cost of wine, spirits, and beer consumed by the in-patients of twelve metropolitan hospitals during the year 1878. The statement gives the quantities in gallons of the various kinds of alcoholic liquors at the twelve hospitals specified, with the average quantity in ounces prescribed to each patient. The following summary will give an accurate idea of the scope and character of the document:—

HOSPITALS.	Number of In-Patients.	WINE, SPIRITS, AND BEER CONSUMED.		
		Total Cost.	Cost per Patient.	Equivalent of Alcohol in Ounces.
		£ s. d.	s. d.	
Westminster	1,763	165 5 9	1 10 $\frac{1}{4}$	8 $\frac{1}{2}$
London	7,055	539 12 2	1 6 $\frac{1}{4}$	10 $\frac{1}{4}$
St. Thomas's	3,727	845 2 7	4 6 $\frac{1}{4}$	18
St. Mary's	2,222	366 16 0	3 3 $\frac{1}{2}$	18 $\frac{1}{4}$
Charing Cross	1,776	430 10 10	4 10	18 $\frac{1}{4}$
University College	2,288	445 6 2	3 10 $\frac{1}{2}$	19 $\frac{1}{4}$
King's College	2,145	391 12 9	3 7 $\frac{1}{2}$	21
St. George's	4,097	796 16 8	3 10 $\frac{1}{2}$	21 $\frac{3}{4}$
Guy's	5,710	1,002 14 10	3 6	22 $\frac{3}{4}$
Royal Free	1,313	300 2 7	4 6 $\frac{3}{4}$	23 $\frac{3}{4}$
St. Bartholomew's	5,868	1,144 11 0	3 10 $\frac{3}{4}$	24 $\frac{1}{2}$
Middlesex... ..	2,040	547 13 0	5 4 $\frac{1}{4}$	32 $\frac{1}{2}$

Another noteworthy indication of the progress of public opinion in regard to this subject may be found in a suggestive article on "English County Asylums," by the Hon. Francis Scott, in the July number of the *Fortnightly Review*. Mr. Scott gives copious details regarding the extent and cost of lunacy, and clearly shows that in a large proportion of cases it may be traced directly or indirectly to drinking. He states that the amount of surgery and dispensary "expenditure is invariably lowest when the consumption of wines, spirits, and porter—i.e., the medical use—is smallest," and the converse is generally true; "that the discontinuance of stimulants and fermented drinks to patients is accompanied by the disuse of drugs and narcotics, and that the substitution of milk in larger quantities for beer, ale, and spirits is attended with the best results." In Carmarthen Asylum, where the bill for wines and spirits had been reduced in two years from £162 to £11, the physician gives an unlimited supply of milk and eggs, and, "in spite of crowded wards, the mortality has been at the rate of six per cent." The entire article deserves a careful perusal at the hands of our medical readers.



Proceedings of the British Medical Temperance Association.

FIRST QUARTERLY MEETING.

THE First Quarterly Meeting of the Association was held in the rooms of the Medical Society of London, Chandos Street, Cavendish Square, on the afternoon of Thursday, 17th July. Forty-five members and visitors were present.

The President, Dr. B. W. Richardson, F.R.S., occupied the chair, and exhibited his latest invention, the sphygmophone, by which all the audience were able distinctly and simultaneously to hear the beating of the pulse of one of their number. Dr. Richardson also showed Professor Hughes' audiometer, by which the power of hearing can be tested up to 200 degrees. Mr. Mason gave a number of sphygmographic tracings.

After the election of eight new members, Dr. NORMAN KERR, F.L.S., read a critical and exhaustive *précis* and review of recent experimental researches on the Alcohols by Drs. Dujardin-Beaumetz and Audigé.* The paper was illustrated by specimens of the various alcohols.

THE PRESIDENT: Dr. Norman Kerr's paper, of the scientific merits of which I desire to express my high opinion, and for which I venture most cordially to thank him, only confirms the original work which made me a total abstainer. And I cannot adequately express my pleasure at finding this elaborate series of accurate and

* See page 1.

precise experiments (of which, at the expenditure of much time and labour, Dr. Kerr has given us so admirable a *précis*) so remarkably, and in nearly every particular, confirm the results I arrived at from my own researches ranging from 1861 to 1874. This work was undertaken at the request of the British Association for the Advancement of Science, and my first report was presented to the annual meeting of 1865. I would have continued a non-abstainer till now had it not been for the unmistakable effects I saw invariably produced by all the alcohols. For the nature and extent of the marked poisonous influence of these bodies I was wholly unprepared, and I thought it only right to proclaim the truth to others. That was the origin of my becoming president of this Society. There is scarcely a point in which the researches of others do not fully confirm my conclusions. With all appreciable doses of alcohol I always found a fall of temperature, so remarkable that when I first laid my report before the British Association it was suggested that there must be a fault in the thermometer, or something else wrong, and my records were doubted. I repeated these thirty-four experiments, meeting carefully every point urged by my critics, with the result that all my previous observations were verified. In every stage except the first, when there was sometimes a slight temporary rise, there was a decided decrease of temperature. These conclusions were afterwards confirmed by Binz and Edward Smith, and now again most amply in these accurate researches of the French *savans*. We may therefore say that alcohol is not a giver of heat. I look back with horror to my former belief, a doctrine I was taught by able and learned teachers, that I ought to give alcohol in the collapse of cholera to bring back the animal temperature. In my experiments I found methylic less poisonous than ethylic alcohol, but the difference between the results attained by the French experimenters and myself, with reference to the methylic, may have arisen, as stated by the reader of the paper, from the

presence of acetone in the wood spirit they used. I employed pure methylic alcohol, taking adequate precautions to ensure the absence of acetone and other impurities. I never found tremors arise from ethylic alcohol, but these were well marked in poisoning from butylic and amylic alcohols. Besides, in the Continental research, the alcohol has been administered hypodermically, while I gave it in the form of vapour. I experimented with many other alcohols, and obtained some striking results. Mercaptan, or sulphur-alcohol, I found give rise to symptoms closely resembling somnambulistic dreams; and it has struck me that perhaps there may be certain states of the system in which mercaptan may be automatically produced, the somnambulistic symptoms arising from the action of this powerful agent.

Dr. LEONARD: There can be no doubt that the greatest source of evil in the world is alcohol. Some of the conclusions in this admirable paper are very startling, and deserve the most serious consideration. I do not know whether the question of alcohol in disease is one within the scope of the Society's operations.

The PRESIDENT: That is not before us to-day, and the Association does not pronounce either for or against the use of alcohol as a medicine. We are simply a society of abstaining medical men. But we will be happy to hear anything you have to say.

Dr. LEONARD: Then I most emphatically object to the agitation against stimulants in the treatment of disease. I had a patient recently who was suffering from a severe attack of acute pneumonia. When in a state of utter collapse, the powers of life apparently fading rapidly away, I gave him two drachms of brandy every two hours. In about twelve hours there was a decided change for the better; and I feel perfectly certain he would not have recovered without the brandy. I look upon brandy as the most valuable remedy at our command.

The PRESIDENT: Would the same purpose not have been served if you had prescribed half the quantity of

pure alcohol in the form of a mixture?

Dr. LEONARD: Certainly.

Dr. DRYSDALE: May I ask the President how he prescribes alcohol?

The PRESIDENT: I do not order brandy or wine. I prescribe ethylic alcohol of the specific gravity of 830.

Mr. PARAMORE was of opinion that the case referred to was probably an illustration of the *post hoc propter hoc* fallacy. Some years ago he was ordered to take wine daily, and told, by a very eminent physician, that if he did not he could not live; but he (Mr. Paramore) had not only lived, but also worked very hard since, on nothing stronger than water. He had very little faith in the power of alcohol to cure disease and avert death.

Mr. JABEZ HOGG thought that the able paper they had all listened to with so much interest, would suggest many important topics for serious consideration. Chemistry was of the highest value to scientific therapeutic treatment, and the remarkable results so lucidly laid before them as to the varying physiological effects of the different alcohols would be of great use to them in their prescription of stimulants. Following up what the President had suggested as to the automatic production of sulphur alcohol, in certain states of the system, being possibly the key to the cause of somnambulism, he might state that he had found certain crystallised products of the breath in persons suffering from cataract. He believed it was quite possible to prevent cataract, but we lacked at present the chemical means of achieving this. He had no doubt whatever that some such agent would yet be discovered. Regarding the general question of temperance, he felt strongly that not a little of the prevailing intemperance in London was owing to the inferior quality of the drinking water. Many persons drank ale and wine who would not dream of doing so if there were an abundant supply of pure water.

Dr. CHARLES R. DRYSDALE begged to express his thanks to Dr. Kerr for his most valuable *resumé* of the results of the experiments of Dr. Dujardin-Beaumetz and his friend.

Some years ago he had had the pleasure of meeting Dr. Dujardin in Brussels, at the International Medical Congress, and of taking part in a debate on alcohol at which that gentleman seemed to express his great sense of the utility of alcohol as an article of diet or as a food. Dr. Drysdale hoped that the valuable experiments that physician had made would tend to convince him that ethylic, and all other alcohols, were really poisons and not alimentary substances. It seemed from the paper read that even ordinary alcohol, when given in a dose of one 140th part of the weight of an animal such as a dog proved fatal, and, doubtless, this held good for man, so that a human being of 140 lbs. in weight would be killed by taking one pound of alcohol at a sitting, even if diluted. One most important fact had come out, namely, that dilution of alcohol made it more rapidly poisonous, because the alcohol was then more absorbable in the upper part of the intestinal canal. This fully accounted for the chronic poisoning by small doses of alcohol contained in beer, light wines, &c. Acute poisoning was rare, whilst chronic poisoning by alcohol caused one-twentieth of all the deaths in Parisian hospitals, and possibly more than that in the hospitals of London. Alcohol, next to pulmonary consumption, killed more adults than any other single morbid cause. He had all his life believed that alcohol was a poison or non-natural, and, as he had, being of delicate constitution, always been obliged to shun all poisons as much as possible, he had been always a total abstainer from it. Alcohol was like ether and chloroform, and had no affinity to milk, the only good test substance for judging whether any given article was a nutriment or not. As far as he remembered, the experiments of Dr. Dujardin were nearly identical in their results with the valuable series made by Dr. Richardson some years ago, and it was clear that, although many of the other alcohols were still more dangerous than the ethylic, yet that ordinary alcohol was itself a most dangerous

substance to partake of, either in large quantities at once, or in small quantities for any lengthened period. Chronic alcoholism produced delirium tremens, cirrhosis of the liver, and disease of the stomach, lungs, heart, and brain, causing insanity in a great number of cases, albuminuria, gout, disease of the bladder, not to speak of destruction of the eyesight, fatty degeneration of the tissues, and a perfect host of minor plagues. Summing up, therefore, he was convinced (1) that alcohol was by no means a food, and (2) that it was a very great producer of disease. As to the use of alcohol as medicine, that was a point he did not wish to treat. All poisons might be useful medicines, *e.g.* arsenic, iodine; and alcohol was no exception to this law.

Dr. KERR, in reply, thanked the meeting for the patient and attentive hearing they had given to his attempt to epitomise these valuable Continental researches. The administration of alcoholic liquors in disease was a subject quite foreign to that at present under their consideration, and was a vexed question with which the British Medical Temperance Association had nothing to do. Their only bond of union was personal abstinence from all intoxicating liquors, in health. He would not be deterred from prescribing intoxicants (which he occasionally did, in accurately-defined doses, especially in cases of emergency when no other stimulant was available at the moment) by the denunciation of all the temperance societies in the world. So far as their Society was concerned, any member was at liberty to prescribe any stimulant in the treatment of disease, with as much freedom as if he were an uncompromising opponent of total abstinence. When he himself prescribed alcohol he aimed at ordering it in a medicinal preparation, as part of an ordinary prescription. By this method he knew exactly the quantity of alcohol the patient was taking and the precise effect the medicine would have; whereas if he ordered some intoxicating beverage, the alcoholic strength of the liquid was an unknown quantity. There was no uniform standard of alcoholic

strength in the ordinary beers, wines and spirits of commerce. Some time ago a medical practitioner of eminence, in the west of London, ordered a female patient to take three glasses of sherry daily. The lady remonstrated with him on his second visit, saying that the wine had made her feel really intoxicated each time she had taken it. His reply was, "Nonsense, you must continue the three glasses daily." On his third visit, the patient was so persistent in her remonstrances that he drank a glass of the wine himself, with the effect that he had to go home and lie down for an hour. The wine was so "fortified" that it was three times the alcoholic strength he intended to prescribe; so he altered the prescription to one-third of a glass three times daily. The peculiar value of an accurate knowledge (such as Richardson, Dujardin-Beaumetz, and Audigé had laid the foundation of) of the different toxic properties and physiological effects of each variety of alcohol, might be turned to account in two ways:—first, in health, by tracing to what sophistication with the heavier alcohols the graver alcoholic symptoms, such as delirium tremens and epileptic mania, were due; and second, in disease, by determining the particular alcohol (such as the methylic when prompt action was indicated), most appropriate for the effect desired. A precise knowledge of the physiological and pathological properties of all the alcohols ought to be the aim of every scientific practitioner of medicine, and of all interested in the preservation of health and the prevention of disease. It only remained for him to add that from the French experiments the mean fatal dose of ethylic alcohol, in acute alcohol poisoning, was about $\frac{1}{141}$ part of the weight of the body. This, in a person weighing ten stone one pound, would be one pound, equivalent to a pint and three quarters of ordinary whisky; and we knew that less than a quart had proved fatal to a heavier man, a remarkable confirmation of the accuracy of the records of the French experimenters.

The proceedings then terminated.

COMPLIMENTARY BREAKFAST AT CORK.

THE British Medical Temperance Association entertained the President and over 100 of the leading members of the British Medical Association on Thursday morning, 7th August, in Faulkner's Hall, Cork. The chair was occupied by Dr. Norman Kerr, of London, who was supported by Professor O'Connor, President of the General Association; Dr. Alfred Carpenter, President of Council; Professor M'Naughton Jones and Dr. Ringrose Atkins, Secretaries; Professors J. J. Charles, McCall Anderson, Kinhead, Ball, and Hirschberg; Mr. Ernest Hart, editor of the *British Medical Journal*; Drs. Beard (New York), and Hodgen (Missouri); Edward Waters, James Startin, A. W. Edis, George Thin, Jacob, Lennox Browne, Balthazar Foster, Hugh Miller, Vaudrey Lush, Mackesy, Mayor of Waterford; Littlejohn, Geleton Atkins, Thompson, J.P., M. M. Bradley, William Walter, Walter Smith, John Smith, Oscar Woods, Roche, Thompson (Leamington); Stephen O'Sullivan, Partridge, Corbyn, A. Henry Royds, Scatliff, C. Y. Pearson, Woakes, J. R. Wolfe, Muir Howie, Duffey, Magee Finny, Cornwall, Webster, James Martin, Isaac Ashe, Lombe, Atthill, Meldon, Henry Rayner, Mrs. Garrett Anderson, Shinkwin, J. K. Barton, Fagan, Vacher, Parsons, Morgan, John Hadden, David Johnson, Elliot, J. P. (Carlisle); Cassells, Morgan, Fegan, O'Keefe, Thomas, Stamford Felce, Newton, Stewart, Jackson, &c., &c.

After an excellent and sumptuous breakfast, during which the CHAIRMAN read telegrams and letters of apology for absence, and referred to a refreshing and attractive non-intoxicating drink exhibited in the museum and called Zoedone, he spoke as follows:—It is my pleasing duty, in the absence of our distinguished President, Dr. Richardson, to offer you all, in the name of the Council of the British Medical Temperance Association, our hearty thanks for the honour you have

done us by your presence this morning. From the year 1832, when one of our Vice-Presidents, Dr. Daniel Richmond, of Paisley, founded two of the earliest teetotal societies in Britain, up to the present hour, representatives of our profession have been among the standard-bearers of temperance. The first medical declaration, in 1839, drawn by Mr. Julius Jeffreys, and signed by seventy-eight leaders in medicine and surgery; the second, in 1847, signed by 2,000 of the most distinguished physicians and surgeons; and the third, in 1871, originated by Professor Parkes, Mr. Ernest Hart, and Mr. Robert Rae, and signed by nearly all the hospital staffs, have powerfully aided in bringing about the revolution which is rapidly being effected in the medical mind and practice, with reference to both the social and medical use of alcoholic beverages. To this happy revolution the fearless utterances of Professor O'Connor (who, with so many of the officers of the British Medical Association, honours us with his company), in his presidential address on Tuesday last, will largely contribute. It is already conceded by the profession that intoxicating liquids are not a necessity of healthy existence; and even our foremost apologists for alcohol defend their use only in very limited quantity, and never between meals, except on rare occasions of extreme mental and bodily exhaustion. The British Medical Temperance Association has, during the three years of its existence, made till recently little progress. A few months ago it numbered only some thirty-five members; but since the accession to office in May last of our eminent President our numbers have risen to nearly 200. We began our present year's work with a dinner without alcohol at the Langham Hotel, London, attended by a numerous and distinguished company of guests; and, with the aid of several munificent friends of tempe-

rance, we have sent a copy of Dr. Richardson's inaugural address, with a blank form of application for membership enclosed, to every practitioner in the kingdom. We have also held the first of a series of quarterly scientific meetings, at which the results of recent French experimental researches on the alcohols were presented, and which was remarkably successful. The quarterly *Medical Temperance Journal* will contain our proceedings, and a copy is sent to each member. We do not meddle, as a society, with extraneous questions such as alcohol as a medicine, each member being free to prescribe alcohol as freely as if he were not an abstainer. Our only bond of union is personal abstinence from the social use of all intoxicating liquors. Our Medical Temperance Association is a standing protest against the sanction of the educated classes to those drinking customs and that unwise legislation which have brought upon us the stain and disgrace of our national sin of intemperance. Whoever may be wrong, we, who abjure alcohol, must be right. We commit a breach of no professional code of honour, we violate no law of either God or man by our practice of abstinence, and I, for one, deem it a high privilege, as well as an imperative duty, to adopt any lawful mode of living which has been blessed by God in the rescue of ten times ten thousand despairing ones who, but for abstinence, would have made utter shipwreck of health, and home, and happiness, and heaven. In view of the terrible extent in all classes of the great evil against which we contend, I feel that I cannot carry on my professional work amongst either rich or poor except as an abstainer. Lighter in pocket I am, but lighter, too, in conscience, stronger in health, clearer in mind, able now to look the most degraded dipsomaniac among my patients straight in the face, and, with a confidence to which I was formerly a stranger, invite him to stand with me on the safe platform of abstaining sobriety. If you do likewise you will not only experience the truth of the utterance of Seneca,

Happy is that man who eats only

for hunger and drinks only for thirst," but when you recall to mind the drunkards you have been the honoured instrument in the course of your professional avocation of saving, you will be able to apostrophise temperance in the glowing language of Oliver Wendell Holmes,

"Entranced while we summon the phantoms around us,
That blush into life at the sound of thy name."

And, while benefiting others, you yourselves will be benefited. Your capacity for work will be increased, and your enjoyment of the refined pleasures of life sensibly heightened. Abstinence, like mercy, is

"Twice blessed ;
It blesseth him that gives and him that takes."

Here, in this favoured isle, in

"The land where the staff of St. Patrick
was planted,
Where the shamrocks grow green from
the cliff to the shore,
The land of fair maidens and heroes
undaunted—"

where John Cheyne and Joshua Harvey, of Dublin, two honoured members of our profession, set to work in 1829 to advocate temperance—here do I most earnestly appeal to you to give the claims of our Medical Temperance Association your careful and candid consideration. No fitter spot on earth for entering on a temperance career than the city made illustrious for ever by the life and labours of Theobald Mathew. Were all the 18,127 practitioners in this country to become abstainers, whose grey hairs would go down in sorrow to the grave? Would not many a sad heart rejoice, would not many a broken spirit be made whole, were the distinguished leaders and the members of the British Medical Association to-day in a body, to shake off the fetters which the tyranny of custom has imposed on them, and take their true place in the van of the great temperance host which at last, God be thanked, is marching steadily on to a certain and glorious victory?

We who abstain from all social dalliance with

“The maddening bowl,”

we are on the winning side. But were we not, what boots it? Our mission as members of the great profession of medicine is too lofty, the call to arms in our nation's desperate struggle with intemperance is too urgent for us to loiter by the way, or cast even a passing glance at the lions in the path. To the muster of the army of abstinence humanity, patriotism, religion, and honour loudly summon us. Some 200 of us, few in number but strong of purpose, have obeyed our country's call, and have resolved—courting no man's favour and fearing no man's frown, come weal come woe, come gain come loss, come success come failure—to avow ourselves abstainers to the profession and to the world. Patients may desert us because we, by the powerful influence of a silent example, record our emphatic protest against their self-indulgence. But a higher motive than self-indulgence or self-interest urges us on. The only applause we look for is the approval of an enlightened conscience, the only privilege we seek is the possession of the courage of our convictions, the only reward we aspire to is the fulfilment of duty; for well we know that, in the noble words of the Poet Laureate:—

“Not once or twice in our fair island story,
The path of duty was the way to glory;
He that ever following her commands
On with toil of heart, and knees, and
hands,
Through the long gorge to the far light
has won
His path upward and prevailed,
Shall find the topmost crags of duty
scaled
Are close upon the shining table lands,
To which our God Himself is moon and
sun.”

(The address was frequently applauded, and Dr. Kerr sat down amid prolonged cheering.)

Dr. ALFRED CARRIERE said that all there were members of the medical profession, and it told wonderfully well for the progress of temperance to

see such an assembly of medical men in Cork on an occasion like that. All were now convinced of the great social change that he hoped was spreading over the United Kingdom, by which there would be a stop put to the universal notion that alcoholic stimulants were necessities of life. He took it that all present were of opinion that they were not necessary, and ought not and need not enter into daily consumption. They, as medical men, knew full well that stimulants were not necessary—they knew full well there were plenty of means by which they could beat disease without the aid of alcoholic stimulants, and that it was an evil which, if not grappled with, would lead their patients into habits of intemperance. He was not speaking of teetotalism as against temperance, but they were convinced that temperance was absolutely necessary, and medical men were determined, as far as they could, not to encourage the daily use of intoxicating liquors amongst those who called for their assistance in their troubles. They knew other remedies could be used, and here was an evil that may lead patients on that path which may land them into the stage of habitual drunkards. They should not prescribe alcohol as necessary, and by that means help the progress of the temperance cause in this country, and help to save many a soul from perdition. There were other remedies they should apply themselves to, and one of these was to provide institutions to supplant the public-house. There was in progress throughout the country a system which, he thought, would tend very much to counteract the progress of public-houses, and he had been told since he came to Cork that these institutions had been in operation here since 1866—he alluded to the coffee-houses. He thought it necessary to make these observations, because he thought it a great privilege to be there as the representative of the Council of the British Medical Association. Although he could not pretend to speak in the name of the Association—he was only speaking as

an individual member of it—yet it was something to know that the Association did not taboo him from the position of president of their council in consequence of his known temperance proclivities. There was a time when, if it became known that he had these proclivities he would have been tabooed from office, but, notwithstanding his known opinions, the Association did him the honour of appointing him president of the council, and he took that as an indication that they believed alcoholic stimulants were not necessary for the promotion of health and the preservation of life. Dr. Carpenter commended the new beverage, termed Zoedone, exhibited in the museums; he also approved of coffee taverns, and concluded by wishing God-speed to the Medical Temperance Association, and expressing a hope that it would not be long before every member of the profession would be found in the temperance ranks.

Professor O'CONNOR, President of the British Medical Association, who was received with great cheering, proposed a vote of thanks to the Council of the Medical Temperance Association, and especially Dr. Norman Kerr, for their kindness in inviting them to that happy gathering. He was delighted to meet with the advanced guard of the temperance cause, who had been so successful in their undertakings. It was his duty to return thanks on the part of the guests invited there, some of whom, like himself had not pledged themselves to temperance, but they practised temperance for their own health's sake. For many years past his whole thoughts had been turned towards the deplorable influence of the use of intoxicating drink amongst the class of society that came under his notice in practice. He thought that by giving his unprejudiced opinion in private he might do good, and he was proud to say that he had done good. He had not alone saved life, but, what in society was more valuable than life, he had saved people's character and restored them to their families; he had made men who were cast down hold

their heads erect and face the duties of life, and he was more thankful for that than for any other medical act of his whole life. He was glad to perceive that the opinions of medical men generally were becoming much more moderate than they used to be with regard to that very important question, and, as had been stated by Dr. Carpenter, a man was not tabooed now for having moderate opinions on the subject. He did not discard the use of stimulants in certain stages of disease, but their great desire should be to try and moderate the opinions of the public on the subject. In conclusion he said the Chairman deserved the thanks of the Association for the deep interest he had at all times taken in the subject.

Professor McNAUGHTON JONES, in seconding the vote of thanks, said they could not possibly over-estimate the importance of a meeting such as that in a city like Cork; and he might remark that were it not for Dr. Kerr they would not have had that breakfast at all. Most of those present remembered the hospitality of Mr. Samuel Bowly who most generously invited the whole Association to breakfast, and it was one of the events of that meeting to which he (Dr. Jones) looked forward with pleasure, namely, the usual annual temperance breakfast to be given by Mr. Bowly. Unfortunately he was unable to be present, and in his absence Dr. Norman Kerr undertook the conduct of affairs. It would be strange indeed if, in that place above all others in Ireland, they permitted a meeting of the British Medical Association to pass over without any expression of opinion on the temperance question in that city, in the principal street of which most of them must have noticed the statue of a man who was honoured throughout the length and breadth of Ireland—Father Mathew, to whom Ireland perhaps owed a deeper debt of gratitude than she did to any other individual or any of her sons. He boldly started the temperance cause, and no man, either medical or otherwise, need be ashamed to follow in his footsteps. He was sure they would all join cordially in

that vote of thanks. There were some in that city who might not be aware of the enormous exertions made in the cause of temperance by Dr. Norman Kerr, but in the temperance field his name was a household word. He thought the medical men of Cork owed him a debt of gratitude, for an expression of opinion coming from such a man tended to elevate the tone of all who were inclined to look favourably on temperance. From the bottom of his heart he wished success to the Medical Temperance Association.

Mr. ERNEST HART supported the motion with unfeigned pleasure. The medical profession were nearly all agreed that alcohol was neither a food nor a tonic, but a powerful medicine, which required to be given with as much care as any other drug. The British Medical Association were giving grants for the purpose of arriving at the truth as to the precise action of alcohol. Dr. Kerr's work had been of the highest possible value. At a great sacrifice of personal popularity and practice that gentleman had nobly carried out his principles, and shown the courageous consistency that was needed to advance the great cause in honour of which they had met there that morning. He knew that medical men had sometimes, at hospitals, recommended patients beer, &c., "to keep them up"—and had thereby done incalculable mischief. Mr. Hart dwelt upon the practical measures that had been adopted for the repression of intemperance, and pointed to the successful starting of coffee-taverns in London, which afforded the working and middle classes every comfort without any of the dangers of the public-house. But they had in addition another evil to fight, and they were now successfully fighting the music-hall evil by establishing a coffee music-hall. In all these movements their Chairman was taking a leading part.

Dr. SCATLIFF, who stated he had been an abstainer from alcoholic beverages nearly all his life, and had been able to conduct a large practice for nearly thirty-five years with personal good health under the depressing in-

fluence of a London atmosphere, proceeded to say that facts were stubborn things, to illustrate which he referred to the statistics of the United Kingdom Life Assurance Society, Adelaide Place, London Bridge, established nearly forty years, which institution divided their insurers into two classes, viz., moderate drinkers and total abstainers, keeping separate accounts from the commencement. At every quinquennial division of profits there was a very considerable advantage in favour of the total abstainers, so much so that on the statistics of the last twelve years the difference of the mortality had been twenty-five per cent. less in the total abstinence section than in the moderate drinking section—or in the same relative number of insurers three persons only dying in the total abstinence section to four in the moderate drinking section. The total abstainers on paying their premiums have to make a declaration annually of their continuing the practice, and thereby having added to their policies the increased profits of their section. Other insurance offices, seeing the advantages, have in many cases adopted the same plan. Therefore there can be no doubt that if there is less dying there is less illness, and that it is perfectly safe and beneficial to practise total abstinence.

Dr. HOULDSWORTH, of Wakefield, had been an abstainer for thirty-six years, and had taken the pledge from Father Mathew.

Dr. RINGROSE ATKINS, of Waterford, was thankful for this splendid gathering, which would have a lasting effect on the profession and the public. He was an abstainer himself, and hoped all the profession would soon be so too.

Dr. THOMPSON, J.P., of Bideford, had been a life abstainer; and Dr. STEWART, of Clifton, and Dr. HODGEN, of Missouri, gave unqualified testimony from personal experience of the healthfulness of abstinence.

Dr. C. J. RUSSELL, of Messingham, telegraphed his regret at absence, and congratulations on the position and influence the Medical Temperance Association had already attained.

Dr. EYTON-JONES wrote that he who

had always been ill on stimulants was getting quite robust on total abstinence.

After those present had, by the libe-

rality of the United Kingdom Alliance, been presented with a copy of the chairman's "Mortality from Intemperance," the company separated.



NEW MEMBERS.

THE following gentlemen have been admitted Members since the Annual Meeting in May last :—

Dr. Adams	Lanark.
Dr. Agnew	Glasgow.
S. S. Alford, Esq.	Haverstock Hill, London.
Dr. H. A. Allbutt	Leeds.
Dr. Allingham	Bristol.
Dr. Arnold	Yardley, Hastings.
Surgeon-Major Alston	Sandgate.
Dr. Bannister	Notting Hill, London.
Dr. Barr	Bury.
Dr. Best	Louth.
Dr. Bird	Sydenham, London.
T. Bott, Esq.	Bury.
Dr. Bradley	Jarrow-on-Tyne.
Dr. Branson	Rotherham.
Dr. Brice	Birkenhead.
Dr. Browning	Rotherhithe, London.
Dr. Buckell	Ledbury.
Dr. Burne	Dublin.
Dr. Caldwell	Shotts, Lanarkshire.
Dr. Caley	Selby.
Dr. Callanan	Bandon, Co. Cork.
Dr. Carmichael	Glasgow.
Dr. A. C. Clarke	Findon Hill, Durham.
F. J. Clarke, Esq.	Luton, Beds.
F. Clowes, Esq.	Windermere.
Dr. Collier	Hammersmith, London.
Dr. Davies	Llantrisant, Glamorganshire.
W. D. Ditchett, Esq.	Louth.
Dr. Drury	Nechells, Birmingham.
Dr. A. A. Duke	Sydenham, London.
Dr. Duncanson	Edinburgh.
Dr. Fiddian	Cardiff.
Dr. Finlay	S.S. <i>Eldorado</i> .
Dr. Fisher	Liverpool.
Dr. Given	Newton-Stewart, Co. Tyrone.
P. Y. Gowlland, Esq.	London.
Dr. Grant	London.
F. J. Gray, Esq.	Rugeley.
Dr. Grindrod	Great Malvern.
Dr. Hadden	Horncastle.
E. Hare, Esq.	Bath.
J. J. Harvey, Esq.	Birmingham.
Dr. Heeney	Belfast.
C. M. Heim, Esq.	Staple Hill, near Bristol.
Dr. Hope	Liverpool.

Dr. Irving	Huddersfield.
Dr. Jackson	Manchester.
W. E. Jefferys, Esq.	London.
Dr. H. Jones	Ruabon.
Dr. Kane	London.
Dr. Kennedy	Fort William, Inverness-shire.
W. H. Kesteven, Esq.	London.
Dr. Lacey	Woolwich.
Dr. Laidlaw	Birkenhead.
Dr. Lamb	Hull.
J. C. Leach, Esq.	Blandford, Dorset.
Dr. Luce	Stratford-on-Avon.
Dr. McCalman	Newbury.
Dr. McCaul	Londonderry.
D. McDonnell, Esq.	Broadford, Co. Clare.
Dr. Mackintosh	Torquay.
Dr. Maclachlan	Newcastle.
J. Maclaren, Esq.	Larbert, N.B.
R. M. Mann, Esq.	Manchester.
R. B. Marriott, Esq.	Swaffham, Norfolk.
Dr. Martland	Blackburn.
Dr. D. Menzies	Edinburgh.
H. Meymott, Esq.	Ludlow.
Dr. Milne	Midmar, Aberdeenshire.
G. B. Morgan, Esq.	Bishopswearmouth.
Dr. Morrison	London.
Dr. Moyniham	Cork.
Dr. Mullan	Ballymena, Co. Antrim.
Dr. H. Nankivell	Bournemouth.
G. Newton, Esq.	Manchester.
Dr. Prance	Plymouth.
Dr. Radford	Manchester.
Dr. Rawdon	Liverpool.
W. H. Rean, Esq.	Tavistock.
Dr. W. Richardson	Wantage, Berks.
Dr. Roberts	Pen-y-groes, Carnarvonshire.
R. P. Roberts, Esq.	Rhyl, Flintshire.
C. H. Roche, Esq.	Cork.
Dr. Ross	Ballymena, Co. Antrim.
Surgeon J. Ruxton	Preston.
Dr. G. M. Scott	London.
Dr. Slessor	Leeds.
Dr. Slimon	London.
Dr. J. Smith	Dumfries.
Dr. James Smith	Belfast.
Dr. T. Gilbert Smith	London.
Dr. Starkey	Dublin.
J. Startin, Esq.	London.
Dr. Stewart	Bristol.
J. A. E. Stuart, Esq.	Dunse, Berwickshire.
R. Thomas, Esq.	Rawdon, Leeds.
Dr. J. Thompson	Leamington.
Dr. W. H. Thompson	Cradley, Worcestershire.
Dr. Thorn	London.
Dr. Tivy	Bristol.
Dr. Trestrail	Aldershot.
Dr. Tweedy	Dublin.

Dr. Vale	Bidford, Warwickshire.
Dr. Walker	Putney, London.
Dr. Weaver	Frodsham, Cheshire.
Dr. Webb	Basingstoke.
J. D. C. Whiting, Esq.	London.
Dr. Whitmarsh	Hounslow.
Dr. William	Bangor.
H. H. Williams, Esq.	London.
Dr. W. Williams	Denbigh.
Dr. Wilson	Rossendale, Lancashire.

The following gentleman has been admitted as an Associate:—

W. J. C. Nourse, Esq. St. Mary's Hospital.

Miscellaneous Communications.

THE BRITISH MEDICAL ASSOCIATION.

THE Annual Meetings of this Association were held at Cork during the first week of August.

In his opening presidential address, Professor O'CONNOR made the following reference to alcohol:—"It is of no consequence to the student of optics whether the modulatory theory of light be true or false, or to the astronomer whether the Copernican system is capable of mathematical demonstration; but it is of great moment to the physician as to whether alcohol is a food or merely a stimulant, whether it is entirely or in part, or not at all, consumed in the body; and still contradictory statements of this kind have been propounded for the last twenty years, in succession, each professedly founded on experiments. In this instance, as in many others, error passes by a species of Exosmosis to the general public, who adopt the views more agreeable to the senses, believing alcohol to be indispensable for the cure of all diseases, and for sustaining bodily health and mental energy. Happily, the timely declaration of 260 of the most eminent London physicians—which might be printed in letters of gold—placed the question on its true basis, stating

that 'while unable to abandon the use of alcohol in some diseases, no medical practitioner should prescribe it without a sense of grave responsibility, and with as much care as any powerful drug.'"

And towards the close of his address the President again alluded to the same subject. "A most important branch of this subject—'Personal Hygiene,'—is not influenced by legislation, each individual having the power of obeying or violating its laws at his discretion, guided on the one hand by his intellectual and moral faculties, and on the other yielding to the cravings of his animal nature; the one tending to elevate, the other to depress and degrade, by subjecting the will to sensual gratifications and emotional instincts. The physician in his private consultations is the law-giver in these cases, and never does his profession afford him greater power of doing good, enabling him to give advice to each patient as to the food suitable to his age, occupation, and circumstances in life, as to the danger of luxurious living, and the deceitfulness of the senses, ever craving what is pleasing instead of what is useful. Above all, by counselling extreme

moderation in the use of stimulants, if they should be required at all; and when we find how weak man's nature is to resist animal enjoyments, particularly the weakly, the miserable, and the poor, who are willing to purchase an hour's exaltation of their depressed spirits at the cost of many hours' misery, and how impossible it is to stop the downward course—*facilis descensus*—once begun, we will find many to whom we may advise absolute restraint, and thus counteract the vitiated opinion which prevails among the public, that stimulants are useful in every form of disease—every derangement of health—which they commence to use as a cure and continue as a poison. I cannot avoid speaking strongly on this subject, knowing the widespread destruction resulting from these erroneous views."

ALCOHOL IN FEVER.

In the Medicine Section, presided over by Dr. ANDREW CLARK the following papers were read:—

The Value of Alcohol in sustaining the Powers of Life in Acute and Chronic Disease. By JAMES LITTLE, M.D. (Dublin).—Dr. Little said that there were three objects with which wine and brandy were prescribed in medicine: 1. Ascordials, to enable patients to take a larger quantity of food and to digest it more perfectly; 2. On account of their soothing effect on the nervous system; 3. Because they are supposed in some way "to keep up the vital powers"; this last being the great reason for their use in severe illnesses. He thought that no better service was ever done to practical medicine than that rendered by Dr. Stokes and Sir D. Corrigan, when they pointed out that the indications for the use of wine and brandy in fevers lay in weakness of the pulse, in feebleness of the impulse and first sound of the heart, in coldness of the ears and extremities, and in pulmonary stagnation. His reasons for desiring to raise the discussion were: first, his conviction of the great power of alcohol as a drug, both for good and for harm, and his conviction that many who gave it were in danger of losing sight

of its injurious influence in one direction while they sought its good effect in another; and, secondly, his impression that, on the whole, the consensus of medical opinion regarding alcohol was much too favourable. In giving alcohol in some severe cases of typhus and typhoid fever, he came to the conclusion that, while it kept up the circulation, it exercised an injurious influence on the nervous system, manifested sometimes in restlessness, but more frequently in an increase of muscular weakness. He had observed the same thing in India; and hence he objected to the application of the term "stimulants" to alcoholic liquors. He believed that possibly in many of the cases which would be regarded as suitable for the use of wine and brandy, the patients would do as well, or perhaps better, without them. Four cases were related in support of this view. He was of opinion also, that in many cases of fever, alcohol was injurious. Murchison and Hudson had pointed out that the use of wine in enteric fever needed special caution; and the frequent presence of cerebro-spinal symptoms in this disease rendered care in the use of alcohol especially necessary. The diseases in which he believed alcohol to be specially useful were catarrhal typhus and pneumonia. In the former, he thought there was no combination of such value as the turpentine punch, long a favourite prescription in Ireland; and in asthenic pneumonia, he did not think it was possible to do without brandy.

Alcohol in Fever. By H. MACNAUGHTON JONES, M.D. (Cork).—Dr. Jones said that he meant his remarks to be essentially practical, giving rather the results of his individual bedside experience than broaching any views or theories. Independently of private cases, he had treated in the Cork Fever Hospital, from January 1873 to June 30th, 1879, 899 cases of typhus, typhoid, and simple continued fever. It was in 1873 that he first determined to watch carefully the effects of digitalis in fever, and learned to abandon the too-generous use of alcohol; nay more, to administer it

only in a certain percentage of cases in which the indications for its employment were clear, and when the responsibility of withholding stimulants would be infinitely greater than that of administering them. He had since been most careful in ordering brandy or wine of any kind in fever. In 1875 he published in the *Dublin Monthly Journal of Medical Science* a table of 310 cases of fever; of these, 220 got no stimulants, 58 had claret alone, 33 had brandy. Of this number, 110 were typhus patients, of whom 26 had stimulants. The mortality in the typhus cases was 8 per cent.; in all other cases $3\frac{1}{2}$ per cent. The brandy in all the fatal cases was commenced from the first to the fifth day. In that period he had two deaths from typhoid fever; both patients had stimulants from an early date in the attack. He had divided the patients treated since the publication of this table under two heads: Total patients treated, with percentage of deaths; and total patients treated since January, 1877. He had not an accurate record of the patients who had stimulants from February, 1875, to January, 1877, as the hospital wine-book was unfortunately mislaid. But the average number of patients who received stimulants was about the same as that from January, 1873, to February, 1875, during which time 30 per cent. of the cases had stimulants at some period of the fever. From January, 1877, to June 30th, 1879, 123, out of 340, or 36·17 per cent., had stimulants. In typhus fever, stimulants were given during the first period to 23·6 per cent. of the cases, and in the latter to 41·37 per cent. In typhoid fever, of 107 cases, 22 had brandy and wine, 27 claret alone. The total percentage taking brandy was 20·56, the total percentage, taking claret, 25·23; the deaths of the former were 36·36 per cent.; of the latter, 7·40 per cent. Of 117 cases of simple continued fever, 5·12 per cent. were given brandy and 5·12 per cent. claret. There were no deaths. In these cases, temperature-charts of the disease were kept. Sphygmographic tracings were taken of several during the illness. In sum-

ming up his conviction, from bedside experience, of the value of alcohol in fever, Dr. Jones said that it is a most valuable therapeutic agent in both typhus and typhoid fever. A large percentage of cases not only do not require it, but its administration is apt to lead to complications. It is impossible to lay down rules as to the stage of the fever in which it may be indicated, as this indication depends rather on the type of the fever than on its stage. But the time to watch for its administration in ordinary cases is from the eighth to the twelfth day. Early administration of stimulants in fever is injudicious. He had little faith in their early employment *preventing* an adynamic condition, and he had rarely seen them have a good effect in the early stages of the fever of habitual drinkers. He was inclined to think that it is a dangerous fallacy to regard them as essential in such cases. Of the two, he had more often seen hard-drinkers recover without stimulants than with them. Alcohol, in his experience, had little effect on the temperature of fever. He generally took, as his tests, the age of patients, the condition of the heart, the pulse, tongue, and the head symptoms. Young patients, as a rule, do well without stimulants. A feeble, irregularly acting heart, with weakened first sound; a compressible and rapid pulse; a tongue keeping fairly moist; the absence of violent head-symptoms; encouraged him in their continuance and use. He believed that we possess in alcohol a supporting food in those typhoid states when assimilation is difficult, and he had many times seen lives saved in fever, sustained for days by brandy and milk alone, when everything else had been rejected. The practices he conceived most to be deplored in the administration of alcohol were: (a) the indiscriminate employment in the earlier stages of fever; (b) the rash continuance and the increase of the quantity used, when the symptoms show that it is acting injuriously and is of no service.

Alcohol in Pyrexia. By EDWARD T. TIBBITS, M.D. (Bradford).—In this

paper, alcohol, judiciously administered, was considered one of the most useful and powerful of remedies in certain pyrexial conditions. Firstly, judging from its chemical composition, reactions, &c., alcohol must be regarded as a "fat." Secondly, from its behaviour in the body, both in health and in acute disease—and, indeed, from some remarkable cases on record, where no other aliment was taken—it cannot be denied that at any rate, under certain circumstances, it is consumed within the body: hence it is a "fat food." The principal reasons for the use of alcohol in certain pyrexial conditions may be thus stated. 1. There is undoubtedly in disease, accompanied with continuous elevation of temperature, a rapid consumption *primarily* of the natural reservoirs of fat, and *secondarily* of the nutritious fat of the muscles. 2. Alcohol is a "fat food," and as such affords supply of fuel which might otherwise be taken from the muscles, thus producing irreparable damage. 3. There can be no doubt that it is a cardiac stimulant, and therefore useful in fevers. 4. It appears to have a most beneficial effect on the nervous system, *e.g.*, in reducing delirium, diminishing irritability, and removing tremors and mental depression. 5. It is said to act as an antizymotic; whether by diminishing the rapid multiplication of bacteria (if they be present) or otherwise, is mere speculation. 6. No other stimulants can be substituted for alcohol so easy of assimilation in fevers. In mild cases of fever, alcohol is unnecessary; in severe cases, even in the congestive stages, the cautious use of alcohol was advocated. When there is a tendency to stagnation in the capillaries, venesection, in conjunction with a liberal allowance of alcohol, was suggested as a mode of treatment likely to prove successful. In the spanæmic stages, alcohol is not, as a rule, considered necessary or advisable. During convalescence, the relish for food and drink of a stimulating character is so intense that it is better to discontinue the use of alcohol as soon as possible after the danger has passed away. In this manner, the patient is less likely,

especially if there be any vicious predisposition, to give way to that greatest of all curses—systematic drinking. Dr. Tibbits said that he would think alcohol was indicated by a very high temperature, and also by tremors. It was, he thought, contra-indicated by the unfavourable character of the symptoms generally, and he would discontinue its use when there was a very dry tongue. He had an idea that, where there was a kind of stagnation in the circulation, bleeding to some extent might do good.

Alcohol in Fever. By NORMAN KERR, M.D., F.L.S. (London).—The author said that the majority of cases, especially in the young, did well without any stimulant. In the comparatively few cases where stimulants were called for, the indications were—1, in rapid tissue-change, to diminish excess of waste; 2, to repair the lesion of the circulation. He confessed that alcohol could lessen the waste and reduce the temperature when these were accompanied by low muttering delirium and intermittent pulse; but the improvement was temporary, and was very apt to be followed by formidable reactionary fever, which must always be closely watched. Quinine, the wet sheet, cold affusion, and the cold bath, checked the excessive waste, lowered the temperature, strengthened and improved the action of the heart; and these remedies were preferable to alcohol, as they did not, like it, load the blood with fatty globules, check the secretions, and paralyse the nervous system. Alcohol could also, to some extent, stimulate the cardiac and capillary circulation; but here the danger of overstimulation was very great. As prompt and efficient a circulatory stimulant as alcohol, without the risk of its perilous reactionary disturbance, was a desideratum. This he had found in the injection of hot water, the repeated injection of ether, flying sinapisms and blisters, and digitalis. Where he prescribed alcohol, he prescribed it as "alcohol," in accurately defined doses. He had frequently seen this remedy prove worse than the disease, from the alcoholic interference with the digestion and

the disturbance of the nerve-centres. When such symptoms appeared, the supply of alcohol must be at once cut off. Where he had seen alcohol do good, it had acted as a sedative to the excited nervous system. As efficient and less dangerous a sedative was the ice-cap, cold affusion, or camphor. To sustain the vital forces while the fever ran its course, milk, *extractum carnis*, beef-tea, rice-gruel, and Wright's unfermented wine had, in Dr. Kerr's hands, proved more effectual than alcohol. He occasionally ordered small doses of brandy to patients who seemed unable to take anything else; but, with these rare exceptions, his experience went to show—as that of Gairdner, Bishop, Henderson, Mudge, and Nichols had previously done—that all forms of fever could be successfully treated with little or no alcohol.

In the discussion which followed, Dr. WADE (Birmingham) said he had been taught by Dr. Stokes, practically, the doctrine which he at present held—namely that there were certain pyrexial diseases in which the use of alcohol might become necessary; and that, when the conditions arose which indicated its use, there was no other drug which would supply its place. But he had been taught, also, that there was no single form or type of fever in which alcohol was necessarily required. The conditions in which he believed it to be necessary were the increasing rapidity of the pulse and of the respiration, a dry tongue, failing muscular power, increasing delirium, and indications of congestion. But his experience was that, even in cases in which these symptoms were present in a marked degree, alcohol would fail to do the good which it was expected to do. He believed that alcohol in all these cases should be used empirically. He did not consider that high temperature was a necessary indication for the use of alcohol. He found that its effects more nearly resembled those of a soporific and a sedative, rather than of a stimulant. He thought the most certain indication of alcohol being beneficial was reduction of the pulse-rate. If this effect did not occur, the

probability, although not a certainty, was that it would not be beneficial. With a sufficient dose, the effects would very probably be produced in from a half to two or three minutes, and they had thus a means of judging of the probable effect of alcohol at a first visit. If the symptoms were by its use aggravated or became worse, he should consider that the patient was either taking too much alcohol or getting too little; and, to ascertain this, he should use the same steps as in the first instance.

Dr. FOSTER (Birmingham) concurred generally in the opinion and practice of Dr. Wade, but he differed from him as to the use of alcohol in high temperatures. In fevers beginning with high temperature, and indicating from their commencement a high state of combustion, the use of alcohol, he thought, was indicated. That, he knew, was only his view of the use of alcohol; but it was strengthened by the recent experiments of Dr. Anstie and Dr. Flint. Dr. Flint had shown that, with persons undergoing great muscular effort, and in others undergoing starvation, whose secretions were analysed, the ordinary oxidation of carbon and nitrogen was insufficient to account for the amount of force used up, or the amount of heat evolved. He had accordingly been forced to the conclusion that there was the oxidation of another element besides taking place in the body in order to keep up the animal temperature, and that was hydrogen. Alcohol was a sparer of the oxidation of the tissues. There was recovery, in cases treated with alcohol, with less loss of power and waste of tissues than in cases treated without alcohol; and he was inclined to think that the explanation of this difference was to be found in the figures which Dr. Flint had given. He knew of no remedy to replace alcohol in fever-cases; and, in desperate cases, he knew none to which he could look except alcohol.

Dr. HAYDEN (Dublin) said he had been in the habit of using alcohol with great caution and reserve. In cases of typhoid fever, he never

administered it, save in circumstances of great necessity—this being a fall in temperature. On this fact, it appeared to him that several of the speakers took a narrow view. A high temperature had been taken as the indication for its administration; but, while he admitted that in a measure, he would say that a very low temperature was a very decided indication for it; and he had found alcohol in these cases of the greatest value in the treatment of typhus. He usually gave it in the form of brandy or whisky, in a dilute form. He also considered alcohol in certain cases a most valuable hypnotic. He was further of opinion that, in treating a person who had been in the habit of taking alcohol very frequently, and whose tissues, therefore, might be supposed to be supersaturated with alcohol, it would be in the highest degree injurious, if not dangerous, to suddenly withdraw this form of food, to which he had been accustomed.

Dr. SQUIRE (London) suggested that another indication for the administration of stimulants was a marked lowering of the surface-temperature, compared with that in the interior of the body.

Dr. SPEDDING (Belfast) said he had considerable experience in the administration of stimulants to children in a variety of diseases, chiefly high pyrexia and fevers. Only one speaker had alluded to giving stimulants to children, and he seemed to be rather averse to it. He had cases in which, for several days, children had not allowed one particle of nutritive food to enter their stomachs, and had lived on nothing but water and punch, made very sweet, and taken cold. It had been his practice for the last eight years, in the Belfast Dispensary, to withhold alcohol till pulmonary complications appeared about the second or third week. He thought that was the time when the use of stimulants was indicated; and then he measured the amount of his stimulants by the amount of pulmonary complications. It seemed to act remarkably well on the heart, and acted as an expectorant, and was a decided

support to keeping up the circulation in the lungs.

Dr. SMITH (Dumfries) said that, in Scotland, they recognised fever as a disease that ran a certain course. They found that the best method of preventing death was to support the system from the commencement of the fever; and they did not give stimulants when they found nervous symptoms were produced.

Dr. SINCLAIR (Dundee) was of opinion that the other ingredients of most alcoholic fluids were not by any means to be under-estimated or ignored, as they too often were. Whisky contained none of those volatile ethers which were developed by keeping in the rich wines of France and Spain; and, for this reason, he objected to the administration of whisky.

Dr. LITTLE (Dublin) wished it not to be supposed that he thought alcohol was not one of the most valuable agents they had. He had, however, thought it was potent for evil as well as for good; and that they must be exceedingly cautious in its use. He entirely agreed in the views of Professor Jones and other speakers. He thought, however, that Dr. Wade had meant to say that alcohol should be used tentatively, and not empirically. He had himself been in the habit of prescribing a cup of tea in the morning, beaten up with the yolk of an egg, as a substitute for stimulants.

The PRESIDENT said this had been the most satisfactory discussion on a question of treatment that he had ever heard. They had gentlemen there with extreme views on both sides; and there had arisen from those gentlemen not only a convergence, but an actual conjunction of opinion as to the point of the value of alcohol in the treatment of fever. In the first place, it was apparently agreed that the patient in fever was like a ship in the storm. They could not do very much for the storm; but they could do a great deal in steering the ship in the storm. The main object was to support the life of the patient in passing through the storm of fever. In the next place, when the patient

began to fail, and death was threatened, perhaps the best remedy was alcohol. It was also agreed that circumstances arose in the course of the fever, and pointing to failure, perhaps not only was alcohol a successful, but it was the only successful means which they could employ; and that, when they gave alcohol, they must give it with a sparing or with a tentative hand; and so long as certain evidences of disagreement did not arise; so long as the tongue was not dry, as the pulse was not increased; so long as no suppression of urine, and as no increase of delirium occurred; and so long as the patient felt comforted and quiet, they might go on with the idea that they were assisting the patient in arriving at a happy termination of the disease.

INEBRIETY AND ALLIED NERVOUS DISEASES IN AMERICA.

A paper on this subject was read in the Medicine Section, by Dr. GEORGE M. BEARD, of New York, who stated that his interest in the subject was purely scientific; that he had been led to study the subject simply because it belonged to neurology—a department of science to which his life was devoted. Inebriety he defined as a functional disease of the nervous system; the chief, though not the only, feature of which is an irresistible desire for stimulants and narcotics, such as alcoholic liquors, opium, chloral, &c. Other accompanying and preceding symptoms are—mental depression, mental irritability, insomnia, tremors, hallucinations, delusions, severe neurasthenia (nervous exhaustion), and, in some cases, alcoholic trance. The disease inebriety is distinguished from the vice of drunkenness in four ways: first, by its irresistibility; secondly, by its periodicity or intermittent character; thirdly, by its transmissiveness; and, fourthly, by the above nervous symptoms associated with it. The vice of drunkenness is objective; the disease inebriety is subjective. The disease inebriety has much the same relation to the habit of drunkenness that some forms of insanity have

to eccentricity. The chief predisposing cause of inebriety is civilisation. Savages, semi-savages, and barbarians drink far more than enlightened nations; and the disease inebriety is always less frequent where the habit of drinking is most common. The chief exciting causes of inebriety are alcoholic liquors, opium, chloral, &c. Another exciting cause is neurasthenia, or nervous exhaustion, particularly the form cerebrastrhenia, or exhaustion of the brain. Brain-exhaustion, which follows loss of property, bereavement, or sunstroke, may excite inebriety in one who is predisposed to that disease. In America, sunstroke is quite a frequent exciting cause. Injuries to the brain, as railway accidents and the like, may excite the disease; so also may salt air; some inebriates cannot go to sea, nor near the sea-coast, without suffering an attack with accompanying symptoms, such as headache, neuralgia, nervousness, &c. Inebriety is more common in America than in any other country, mainly from climatic reasons: dryness of the air, and extremes of heat and cold. For the same reason, other functional nervous diseases of the family to which inebriety belongs, such as neurasthenia, general neuralgia, and hay-fever, are more common in the northern and eastern parts of America than in the southern. Like every nervous disease of the family to which it belongs, it pretty steadily diminishes as we go south—to the Gulf States; yet there is more total abstinence in the north than in the south. There is no country in the world where there is so much total abstinence from drinking, and, at the same time, so much inebriety, as among the people of the northern and eastern parts of the United States. The habit of drinking has been diminishing for the last half quarter of a century among the better classes, but the disease inebriety has been increasing at the same time among the same classes. Inebriety is, to-day, treated on the same principle as other nervous diseases of the same family to which it belongs; that is, first, by keeping

the patient away from the exciting causes, and, secondly, by fortifying the system with sedatives and tonics. For very many cases, asylums are indispensable and legislation is needed, and, in America, is exercised to give power of holding such cases. The best law, on the whole, is the law of the State of Connecticut, which is very similar to the "Habitual Drunkards Act," which has just been passed by the English Parliament. The best remedies for fortifying the system, and breaking up the habit of drinking, are bromides in very large doses (3i to 3ii), especially bromide of sodium; electricity in general, and central applications (general faradisation and central galvanisation), strychnine, quinine and cinchona, iron, cod liver oil in emulsion, the preparations of zinc (oxide, bromide, and valerianate) with warm baths. This system of treatment for opium inebriety, combined with the gradual withdrawing of the drug, has been wonderfully successful in America. The American Association for the Cure of Inebriates was organised in 1870. There are, in the United States, twenty-six asylums in practical operation, and charters for fourteen more that are yet to be built. The movement has been carried on against the opposition of all forms of ignorance and non-expertness, but is every year making progress. The *Quarterly Journal* has been in existence three years. Of those who are committed to asylums about one-third are cured; and probably in the next century, when there shall have been greater progress made in the treatment, and patients shall come to the asylums earlier in the disease, and there shall be greater knowledge and experience in the management of asylums, the results will be better. In regard to the criticisms of Dr. Bucknill, it would seem that some of his strictures are just; but they are only one side of a complex story. Asylums are not all alike, and all are imperfect; but every year they must be making progress in their management and in their theory and treatment of the disease. It was clear that Dr. Bucknill did not have

any just notion of what inebriety was, nor of the distinctions between that disease and the habit of drunkenness. His ideas, also, of what asylums ought to accomplish were too high. Inebriate asylums are not specifics for inebriety, any more than insane asylums are specifics for insanity; but when they are empowered with legal authority, and wisely managed, they are the best means known for the treatment of this terrible and increasing disease. Both in asylums and out of asylums, more attention should be given to the sedative and tonic treatment above described than it has yet received. Too exclusive dependence is placed in America and Europe on the mere removal from the one exciting cause by confinement. In this respect there is room for progress, and for careful experiments, which will soon be made.

Dr. CARPENTER (Croydon) was glad to find in Dr. Beard's paper a confirmation of certain statements he had himself made at Sheffield two years ago, and which had then been denied. They were indebted to Dr. Beard for making the statement he had done; and it would be some satisfaction to him to know that the Imperial Parliament had recently passed an Act called the Habitual Drunkards Act, which would enable a person to place himself under control, and would give physicians in this country the power of treating this disease in the way that had been followed out successfully in America. The Bill was a permissive one only, but it would, he thought, be sufficient to enable us in this country to show that this diseased condition could be cured, and that it could be cured only in the way that had been pointed out by Dr. Beard. The Act was one which was very simple, but it contained two or three provisions which were extremely important; and he hoped there would soon be institutions established this year in different parts of the United Kingdom and in London, such as already existed in America.

Dr. NORMAN KERR (London) corroborated what Dr. Carpenter had stated, and said they were not going

to rest contented with this Act. Their business now was to show, through means of this experimental Act, that they could do what the Americans had done. If this Act remained a dead letter it would be the fault of the profession. It was their duty to show by a few cases what could be done, and they should then get increased powers of detention, and the extension of the period of the Act from ten years to an indefinite period. His observation in America showed him that where institutions of this kind were properly managed they were successful.

The PRESIDENT pointed out that Dr. Beard's paper was valuable in other respects besides that just referred to, and conveyed to Dr. Beard the thanks of the Section, and its sympathy with him in the work in which he was engaged.

LEGISLATION FOR HABITUAL DRUNKARDS.

At one of the general meetings of members, Dr. ALFRED CARPENTER, President of the Council, read the following report of the Committee appointed at the last annual meeting for promoting legislative restrictions for habitual drunkards:—

"Your Committee are able to report that the Bill which Dr. Cameron introduced into the House of Commons last year, and which passed a second reading shortly before the Bath Meeting, was not proceeded with. Dr. Cameron introduced it again early in the present session. It passed through both Houses without a division, and it received the Royal assent 3rd of July, 1879, under the title of 'The Habitual Drunkards Act, 1879.' The Bill was narrowly watched by your Committee. Conferences, in conjunction with the Society for Promoting Legislation for Habitual Drunkards, were held with the Home Secretary, Lord Aberdare, and Lord Shaftesbury, and improvements suggested, some of which have been embodied in the Act. The Committee congratulate the Association upon the result,

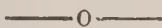
which, however, they can only consider as the first instalment of a more perfect measure. They are of opinion that a cordial vote of thanks should be accorded to Dr. Cameron for the ability with which he introduced the Bill and the judgment with which he carried it through the House of Commons; also that a vote should be given to Lord Shaftesbury for the care which he bestowed upon the Bill, and advice he tendered to the Committee with regard to its provisions. The Bill was drafted by the Habitual Drunkards Society, without whose aid the measure would not have been obtained. A strenuous effort should now be made to bring into action some scheme by means of which the Act can be made effective. The Committee are able to report that private efforts are about to be made for this purpose; but they are of opinion that a strenuous exertion should be made to procure the formation of a Society, who could elect a Committee of Management for the purpose of providing a residence fit for the reception of patients. A retreat should be established; its superintendent should have no pecuniary interest in the detention of patients; he should be a salaried officer, and responsible to the Committee of Management, who should appoint him. By this means, accommodation could be provided for the poor as well as the rich, which can only be afforded by a properly organised association on the basis indicated by your Committee. In conclusion, your Committee, encouraged by the success hitherto achieved, are still aware that further efforts in the same direction will be required, they ask therefore for their reappointment as heretofore."

Dr. Carpenter moved that the report be adopted, and the following Committee re-appointed: Dr. Alfred Carpenter, Mr. Stephen S. Alford, Dr. G. F. Blandford, Mr. W. Cadge, Dr. J. W. Eastwood, Dr. B. Foster, Mr. W. C. Garman, Mr. John Gay, Mr. Carsten Holthouse, Mr. Charles Macnamara, Dr. H. Monro, Mr. G. W. Mould, Mr. R. H. B. Nicholson, Dr. A. P. Stewart, Dr. Farquharson, Dr.

E. H. Vinen, Dr. Norman S. Kerr. He stated that a strong effort would be made within the next few months to provide an institution where all classes and both sexes could be treated, and, he hoped, restored to their friends and society. This was a

step in the right direction, and he hoped it would encourage further legislation.

Dr. MALINS (Birmingham) seconded the motion for the adoption of the report, and it was unanimously accepted.



THE MEDICAL HISTORY OF THE TEMPERANCE MOVEMENT.*

By NORMAN KERR, M.D., F.L.S., *London.*

AT no stage in the onward progress of the temperance movement have representatives of the medical profession ever been wanting. In the early or moderation stage, when the advocacy of temperance reformers was confined to abstinence from ardent spirits, a numerous company of Æsculapians was invariably in the van.

Leaving out of the reckoning altogether the many unstinted commendations of temperance by the early fathers of the healing art, while united temperance effort was yet in the womb of time, from the ranks of the noble profession of medicine emanated graphic expositions of the physical, mental, and moral dangers accompanying even limited alcoholic indulgence.

In 1725 Dr. Cheyne had issued a second edition of his first work (1), in which he commends total abstinence as the most natural, healthy and safe mode of living, and condemns moderate drinking as unhealthy and dangerous.

In 1747 Dr. James (2) wrote, "Every person who drinks a dram seems to me guilty of a greater indiscretion than if

he had set fire to a house; and for the same reasons cordial waters are the most dangerous furniture for a closet." Again, "I cannot forbear admiring the great wisdom of Mohammed, who strictly forbade his followers the use of fermented liquors for better reasons than are generally apprehended."

Dr. Darwin, author of "The Botanic Garden," in 1794 (3) calls wine, "a pernicious luxury in common use, and injuring thousands."

In 1802 Beddoes (4) pointed out the many dangers attendant on the social and medical use of intoxicating drinks, dwelling on the "mischief from wine taken constantly in moderate quantity," and emphasising "The enfeebling power of small portions of wine, regularly drunk."

Dr. Trotter, two years later (5), denounces beer as a "poisonous morning beverage," says "wines strengthen neither body nor mind"; and thus writes, "When wine was first introduced into Great Britain in the thirteenth century, it was confined to the shop of the apothecary. It would

* Read at the Crystal Palace Jubilee Conference, 2nd September, 1879.

1. An Essay on Health and Long Life. George Cheyne, M.D., F.R.S., London and Bath, 1725.

2. Pharmacopœia Universalis. R. James, M.D., London, 1747.

3. Zoonomia. Erasmus Darwin, M.D., F.R.S., Dublin, 1794.

4. Hygeia. Thos. Beddoes, M.D., Bristol 1802.

5. An Essay, Medical, Philosophical and Chemical, on Drunkenness and its Effects on the Human Body. Thomas Trotter, M.D., 1804.

have been well had it always been confined there."

Writing to Dr. Joshua Harvey, in 1829, Dr. John Cheyne, Physician-General to the Forces in Ireland, in a letter published in Dublin (6), contends that the medical profession "ought to make every retribution in their power for having so long upheld one of the most fatal delusions which ever took possession of the human mind. Dr. Cheyne also trenchantly exposed the fallacy of supposing that fermented wines recruited the strength in bodily or mental exhaustion.

So much for British medical men in the prehistoric temperance era. If we turn to America, we find Dr. Rush, nine years earlier than Beddoes, vigorously engaged in enlightening his fellow-countrymen on the terrible evils wrought by the imbibition of ardent spirits (7). In 1813 Dr. Reuben Mussey, of Salem, was doing good service, and four years later Dr. Torrey was hard at work, as was Dr. B. J. Clarke in 1822; Dr. John Ware, of Boston, in 1823; Dr. Gamaliel Bradford, in 1826; Dr. Charles A. Lee, of New York, in 1827; and Dr. Flint in 1828 (8).

The period of incubation having ended, we find numerous representatives of the medical profession officiating at the hatching of the promising Bird of Temperance, and carefully watching over its infant life of abstinence from distilled spirits alone. Among the office-bearers of the Glasgow and West of Scotland Temperance Society, in November, 1829, was Dr. Charles Ritchie (9), and in the same year Dr. Kirk (10) occupied a

similar position in Greenock. Among the officers of the Hibernian Temperance Society, in 1831, were Drs. Harvey, Cheyne, Pope, Adams, and Bevan (11). In June, 1831, at the head of the British and Foreign Temperance Society were Sir John Webb, M.D., Sir James McGrigor, M.D., Sir Matthew Tierney, M.D., Sir John Richardson, M.D., Dr. Conquest, and Dr. Pidduck (12).

When temperance had emerged from its infancy of total abstinence from ardent spirits and moderation in the use of wines and malt liquors into the full bloom of teetotal manhood, the representatives of medicine were still conspicuous by their presence.

A veteran Æsculapian to this day in professional harness, my honoured friend Dr. Daniel Richmond, of Paisley, had the privilege of being one of the founders of the Youths' Temperance Society there on 14th January, 1832 (13), and on the succeeding day of assisting at the formation of another total abstinence society in the city of Glasgow (14).

In England Dr. Grindrod; Mr. Higginbottom, of Nottingham; Dr. Beaumont, of Bradford; and Dr. Oxley, of London, were among the pioneers. To no member of the profession is the temperance movement more indebted than to the venerable though vigorous author of "Bacchus." He was one of the first, if not the first, medical man to sign the pledge (15); a practical abstainer for years before, and an avowed one in 1830 (16). He founded the first exclusively teetotal society in England, at Manchester, on 26th February, 1834 (17).

6. A Letter on the Effects of Wine and Spirits. Dublin, 1829.

7. Medical inquiries into the Effects of Ardent Spirits upon the Human Body and Human Mind. Philadelphia, 1793.

8. The Text-book of True Temperance. Dr. F. R. Lees. London, 1871.

9. The Temperance Society Record, Glasgow, 1830. Vol. I.—Early Heroes of the Temperance Reformation. Wm. Logan, Glasgow, 1873, p. 62.

10. Ibid. I., 25.

11. Ibid. II. Glasgow, 1831.

12. Ibid. II. Glasgow, 1831.

13. Early Heroes. Logan, Glasgow, 1873, p. 82. History of the Temperance Movement. S. Couling, London, 1862, p. 69.

14. Early Heroes, p. 82.

15. *British Temperance Advocate*, August, 1879. Dr. G.'s letter to 45th Cong. Brit. Temperance League. *Templar*, April 23, 1874, London.

16. Ibid.

17. *Templar*, April 23, 1874, London.

In 1835 he established a children's society, a veritable Band of Hope, in the same city (18). In that year, and for many years thereafter, he was journeying through the length and breadth of the land delivering illustrated lectures (many of these presided over by medical men) on the physiology of alcohol, teaching that alcoholic beverages were "pernicious, poisonous, deadly" (19). More than 100,000 persons took the pledge at Dr. Grindrod's lectures (20). Eight doctors signed after his lecture at South Shields (21). He advocated the institution of coffee taverns as counteractives to drunkenness in 1835 (22). He was the first in this country to utter sound views on what is known as "the unfermented wine question," taking, in answer to objections urged against total abstinence from the supposed Scripture sanction of the ordinary use of intoxicating liquors, the stand all enlightened students of God's Word must eventually occupy, that the wines mentioned in the Bible embrace both fermented and unfermented varieties (23). Dr. Grindrod was advocating these views as early as 1834 (24). He took the leading part in establishing the first abstinence organisation, the British Temperance League, in 1835 (25); and, having organised temperance societies in connection with St. Paul's Church, Manchester, in 1835, may be said to have been the real founder of the great Church of England Temperance Movement. From the first he advo-

cated that every church should have a temperance society, and every Sunday-school its Band of Hope (26). Dr. Grindrod was the first to propose the compulsory detention of habitual drunkards (27).

Dr. Beaumont was an abstainer in 1829, and published an exposure of the dangerous effects of strong waters in 1830 (28).

Mr. Higginbottom, F.R.S., was probably an abstainer many years before the birth of the movement, and had abandoned the prescription of alcohol as early as 1832 (29).

Dr. Oxley was a teetotaler in 1790 (30), and also among the first was Dr. Kirk, of Greenock. Dr. J. C. Ferrier became a declared abstainer in 1832, Dr. Menzies in 1835, Dr. Burn in 1836, all in Edinburgh; Dr. Menzies being the second, and Dr. Burn the third president of the Edinburgh Total Abstinence Society. Mr. Bennett, of Winterton, joined the ranks in 1835, Mr. Mudge, Mayor of Bodmin, and Mr. Julius Jeffreys, F.R.S., in 1837. Among those who rapidly followed suit were Dr. Lovell, of London; Dr. Collenette, of Guernsey; Dr. Fothergill of Darlington; Dr. Gordon, of Hull; Mr. Courtenay, of Ramsgate; Mr. Nicolls, of Longford; Dr. Robert Martin, of Manchester; Sir John Forbes; Dr. Thompson, J.P., of Bideford; Mr. Batchelor, of Dunstable; Dr. Mackenzie, J.P., of Inverness; Mr. Townson, of Liverpool; Dr. Holdsworth, of Wakefield; Dr. McCulloch, of Dumfries (whose lecture to the Scottish Universities in 1859 did yeoman's service); Dr. David Brodie, of Edinburgh; Dr. Linton, of Aberdeen; Dr. Adams and Dr. Thomson, of Glasgow; Dr. Jeffrey, of

18. *Temperance Record* (letter from Dr. G.), May 29, 1879, London.

19. *Star of Temperance*, Sept. 12, 1835, Manchester.

20. *The Wesleyan*, Sept, 1846.

21. *National Temperance Magazine*, Nov., 1845, Leicester and London.

22. *Star of Temperance*, Sept. 12, 1835, Manchester.

23. *Bacchus*. R. B. Grindrod, M.D., 1st Edition. London, 1839. p. 212, et seq.

24. *Teetotalism Calmly Investigated*. John Youil, brewer, Manchester, 1835.

25. *British Temperance Advocate*, February, 1879.

26. *Ibid.*: *Bacchus*. 1st Edition, p. 499.

27. *Bacchus*. 1st Edition, p. 506.

28. *A Lecture on the Nature, Uses, and Effects of Ardent Spirits*, delivered at Bradford, Dec. 7, 1830, by Thomas Beaumont.

29. *Proceedings of the International Temp. and Prohib. Conv.*, Manchester, 1862.

30. *Dr. O.'s Speech at Exeter Hall*, Oct. 8, 1855.

Ayton; Dr. J. C. Reid, of Newbiggin-on-Sea; Dr. Purdie, of Edinburgh; Dr. Watson and Mr. Anderson, of Tranent; Mr. Aikman, of East Linton; Mr. Smith, of Denny; Mr. Rae, of Stonehouse; Dr. Scatliff, of London; Mr. Dixon, of Watlington; Dr. Gilchrist, of Dumfries; Deputy Surgeon-General Gunn, Surgeon-Major Lynn, and Dr. Forsayeth.

Dr. Forman, of Glasgow, who had been one of the earliest abstainers, was the proprietor and editor of the *Tectotal Mirror*, a fortnightly publication, with its *habitat* in Glasgow, devoted to the advocacy of the cause. The first number appeared on 16th January, 1838, and the last on 24th January, 1839.

Time fails me to enumerate the long list of medical worthies who have since kept up, with unbroken continuity and ever-increasing volume, the line of temperance apostolical succession. Two names in this undaunted band command attention. Well do I remember, in the Free Church of Scotland Assembly at Edinburgh in (I think) 1856, the late Professor James Miller boldly declare that, in his opinion, the greatest stumbling-block to the temperance reformation was total abstinence; but twelve months had barely elapsed ere this noble-minded Christian surgeon stood up, at the next meeting of that very Assembly, to confess his error and urge the claims of abstinence on the assembled fathers and brethren. His burning zeal and eloquent tongue, combined with his eminence in the profession, had a marked effect on the progress of our movement. Many renowned physicians and surgeons have since that time come over to our side, notably Professor Rolleston, of Oxford, and Sir Henry Thompson, of London; but

“the noblest Roman of them all,”

the high priest of hygiene, a man honoured no less by popular acclaim than by the world of science, is the illustrious Dr. Benjamin Ward Richardson. An original investigator—for to no one are we more indebted for what accurate knowledge we have of the action of the alcohols—his scien-

tific attainments, with that classic diction of which he is so consummate a master, have won for our cause a position it had never been within sight of before.

In every phase of the temperance reform medical men have participated. Dr. Grindrod suggested and presided at the formation of the first English organisation in 1835; Dr. Richmond aided in the foundation of the societies at Paisley and Glasgow in 1832; and Dr. Menzies, of the Scottish Temperance League, at Falkirk in 1844. There were several medical men at the launching of the United Kingdom Alliance in 1853, and a doctor, who was the first honorary secretary of the Glasgow Abstainers' Union in 1854, proposed and instituted the well-known and wondrously successful Saturday Evening Concerts in the City Hall there. On the directorate of the original Coffee Tavern Company have been from the first two members of the profession, who are also on the Provisional Council of the Coffee Music Hall Company; and throughout the kingdom disciples of Hippocrates are actively engaged in every department of temperance effort. To medical men the agitation for legislation for habitual drunkards owes its conception and most of its persistence. Two of the most valuable contributions to the Wine Question have come from the profession. Barry, in 1775, published a work (31) which has been a mine of wealth to all inquirers after the truth regarding Bible and ancient wines; Henderson, half-a-century later, presented a complete cyclopædia of oino-historic law and facts (32); Grindrod and other physicians have added largely to the literature of this important subject (33).

31. *Observations Historical, Critical, and Medical on the Wines of the Ancients.* Sir Edward Barry, Bart., M.D., F.R.S., London, 1775.

32. *History of Ancient and Modern Wines.* A. Henderson, M.D., London, 1825.

33. *Bacchus*, 1st ed., London, 1839, pp.

The three well known Declarations concerning alcohol merit special mention. The first was drawn by Mr. Julius Jeffreys in 1839, and was signed by Sir B. Brodie, Sir James Clarke, Sir J. Eyre, Dr. Marshall Hall, Dr. A. T. Thompson, Dr. A. Ure, the Queen's Physicians; Professor Partridge, Professor Quain, Mr. Travers, Mr. Bransby Cooper, and seventy-eight leaders in medicine and surgery. This document declared the opinion to be erroneous that wine, beer, or spirit was beneficial to health; that man in ordinary health required no such stimulant, and could not be benefited by the habitual employment of such in either large or small quantities; that, even in the most moderate doses, alcoholic drinks did no good, while large quantities (such as by many would be thought moderate) sooner or later proved injurious to the human constitution, without any exceptions.

The second Declaration was originated, and the many signatures published, by Mr. John Dunlop in 1847. More than 2,000 of the most eminent physicians and surgeons signed this, including Sir R. Brodie, Sir J. Clarke, Sir W. Burnett, Sir J. Forbes, Sir H. Holland, Sir A. Munro, Sir J. McGrigor, Sir R. Christison, Dr. W. B. Carpenter, Dr. Copland, Dr. Niell Arnott, Dr. A. Farre, Professors Guy, Allen, Thomson, Miller, McLeod, Easton, Anderson, McFarlane, Rainey, Buchanan, Paris, Winslow, Alison, Syme, Henderson, Lawrie, McKenzie, R. D. Thomson, Couper, and Simpson. This certificate set forth that perfect health is compatible with total abstinence from all intoxicating beverages; that all such drinks can, with perfect safety, be discontinued either suddenly or gradually; and that total and universal abstinence from alcoholic liquors and intoxicating beverages of all sorts would greatly contribute to the health, the prosperity, the morality, and the happiness of the human race.

The third Declaration, which was

prepared by Professor Parkes, on the suggestion of Mr. Ernest Hart and Mr. Robert Rae, in 1871, was signed by 269 leading members of the hospital staffs. Among those signing were Sir George Burrows, Sir Thomas Watson, Sir H. Holland, Sir William Fergusson, Sir James Paget, Sir Ranald Martin, Sir Henry Thompson, Sir Duncan Gibb, and Sir James Bardsley. This Declaration, recording the widespread belief that the inconsiderate prescription of large quantities of alcoholic liquids by medical men had given rise to intemperance, urged the need for medical practitioners to prescribe these liquors only under a sense of grave responsibility; that alcohol, in whatever form, should be prescribed with as much care as any powerful drug, and that the directions for its use should be so framed as not to be interpreted as a sanction for excess, or necessarily for the continuance of its use when the occasion was passed.

Few seem to be aware that, at its very beginning, the temperance movement was powerfully aided by a large number of local declarations signed by the leading practitioners in the various districts. Between 1830 and 1833 declarations setting forth the evils of the most limited habitual use of ardent spirits were signed by the medical men of (among other places) Dublin, Edinburgh, Bradford, Berwick, Kilmarnock, Leeds, Cheltenham, Brighton, and Bristol (34); while the Manchester practitioners testified that the habitual use of all intoxicating liquors was not only unnecessary but pernicious (35). As far back as 27th December, 1790, the College of Physicians of Philadelphia memorialised the Senate and House of Representatives of the United States on the pernicious effects of distilled spirits upon the health of the people, stating that their habitual use, in any case whatever, was wholly unnecessary, and that they neither fortified the body

212-246, and 395-482. *Unfermented Wine a Fact*. Norman Kerr, M.D. 4th ed., London, 1879.

34. *Temperance Society Record*, Glasgow, Vols. I., II., and III.

35. *Ibid.* Vol. I. (1830), First Annual Report, p. 34.

against the morbid effects of heat or cold, nor rendered labour easier or more productive (36).

THE PHYSIOLOGY OF ALCOHOL.

To the literature of the physiology of alcohol the medical profession has contributed largely. M. Courten, of Montpellier, showed, in 1869, by the hypodermic injection of Sp. Vin. Rect., that the alcohol of white wine has practically the same poisonous effects as the alcohol of distilled spirits (37).

Early in the eighteenth century Dr. Cheyne (38) gave a clear and graphic exposition of the bodily and mental mischief wrought by intoxicating drinks, and commended the superiority of abstinence over moderation mainly on the ground that, through their physiological action, all such beverages, even when taken in limited quantities, have ever a tendency to create a craving for more. In his expressive language "drops beget drams, and drams beget more drams." Elsewhere he says of fermented liquor used socially, "as a common beverage it is a slow and certain poison" (39).

Dr. James, in 1747, exposed the fallacy that alcoholic drinks promote digestion (40); and Dr. Darwin, towards the close of the century, classed alcohol as a poison, wrote of its use as a luxury as pernicious, and held it to be "the principal, if not the only, agent in the production of gout and gravel" (41).

In the second year of the present century Beddoes enunciated the great truth—"the injury from any fer-

mented liquor is to be measured by the quantity of alcohol or ardent spirit which is to be obtained from it on distillation" (42). From the experiments of Pilger on the lower animals, and from his own observations on man, Beddoes came to the conclusion that fermented and distilled liquors were inimical to digestion, and a constant source of chronic indigestion (43).

Trotter, in 1804, showed that sudden abstinence was not only perfectly safe, but was the only method for the curing of the drunkard; and that to nursing mothers and to the young alcohol was especially hurtful (44).

McNish, some years later (45), denounced the drinking of malt liquors by nursing women, showing that the irritant and narcotic properties of alcohol are communicated to the child through the milk. He also showed how men, indulging habitually day by day, without producing any evident effect on either body or mind, and fancying themselves strictly temperate were "undermining their constitutions by slow degrees—killing themselves by inches, and shortening their existence by several years" (46).

Dr. Beaumont, of the United States, conducted a remarkable series of experiments—from 1825 till 1833—on a young Canadian who had an unhealed gunshot wound in the walls of his stomach, with the result that "the whole class of alcoholic liquors, whether simply fermented or distilled, may be considered as narcotics, producing very little difference in their ultimate effects on the system," and that these liquors retarded digestion and produced irritation and inflammation of the gastric mucous membrane, even when St. Martin felt no symptoms of discomfort (47). Dr. Dundas Thompson and

36. *Temperance Society Record*, Vol. II. (1831), pp. 173-4.

37. *Medical Essays and Observations*, abridged from the *Philosophical Transactions*. S. Mibles, M.D., London, 1745 (Stand. Temp. Lib., London, 1843, p. 20).

38. *An Essay on Health and Long Life*. George Cheyne, M.D., F.R.S., 2nd ed. London, 1725.

39. *Ibid.*

40. *Pharmacopœia Universalis*. R. James, M.D., 1747.

41. *Zoonomia*. Erasmus Darwin, M.D., F.R.S., Dublin, 1794.

42. *Hygeia*. Thos. Beddoes, M.D., Bristol, 1802.

43. *Ibid.*

44. *An Essay on Drunkenness*. Thomas Trotter, M.D., London, 1804.

45. *The Anatomy of Drunkenness*. Robert McNish, Glasgow, 1832, 4th ed.

46. *Ibid.*, 5th ed., p. 254.

47. *Experiments and Observations on*

Dr. Henry Munroe (48) verified these conclusions at a later date.

In 1814 Prout found (49) that all alcoholic liquors, even diluted, diminished the quantity of carbonic acid expired, and Fyfe shortly afterwards confirmed Prout's conclusions, as also have done Schultz, Vierordt (50), and Edward Smith (51).

In 1839 Percy found alcohol in the brain of a dog killed two minutes after the administration of the poison (52), while Dr. Lewis (53) and Dr. Kirk published cases occurring in their practice corroborating Percy's experiments on the lower animals. Dr. Ogston added yet further confirmation to the proposition that alcohol penetrates at once to the brain through the medium of the blood (54).

Schultz in 1842, Virchow in 1853, and Boecker in 1854 (55) showed that alcohol, even in moderate doses, cuts short the life period of the blood corpuscles, and alters the character of the blood, loading it with fatty globules and with retained effete matter.

Davy was the first to demonstrate the influence of alcohol in lowering the temperature of the body (56); Lees enforced the accuracy and importance of this fact (57); Henry

Brown admitted it in 1858 (58); Richardson in 1865, Binz (59), and Ringer (60) have by elaborate experiments confirmed it, Richardson giving the doubters the *coup de grâce*.

Liebig, in 1843, while admitting that alcohol possessed no alimentary principles (61), contended that it was decomposed in the system, and was, though to a limited extent, a heat giver (62).

In 1860, Lallemand, Perrin and Duroy published the conclusions to which they had come after a very long and painstaking investigation (63), holding that alcohol was eliminated from the body unchanged.

An animated and lengthened controversy ensued, in which Baudot (64), Trosseau (65), Schulinus, Edward Smith, Anstie, Thudicum, Dupré, Subbotin, Richardson, and others took part; and the present state of our knowledge is that a portion of the alcohol taken has been demonstrated to pass out of the body unchanged (66), while we are in total ignorance of what becomes of the remainder.

Alcohol was held to be a paralyser by Grindrod in 1839 (67), by Schultz in 1842 (68), by Lees in 1843 (69), by

the Gastric Juice and the Physiology of Digestion. Wm. Beaumont, M.D., Plattsburgh, 1833.

48. The Physiological Action of Alcohol. London, 1865.

49. Annals of Philosophy, II., 328: IV., 331.

50. Physiology of Respiration, 1845.

51. Phil. Trans., 1859.

52. An Experimental Inquiry concerning the presence of Alcohol in the Ventricles of the Brain. John Percy, M.D., Nottingham, 1839.

53. Medical Examiner. N.S., p. 139.

54. Ogston on Intoxication. Ed. Medical Journal (1833) XI., 293.

55. Text-book of True Temperance. Dr. F. R. Lees, London, 1871, pp. 76-7.

56. Phil. Trans. Roy. Soc., 1845. II., 234-5.

57. The Illustrated History of Alcohol. Dr. F. R. Lees, London, 1843.

58. Discussion between Dr. H. Brown and Dr. F. R. Lees, Manchester, 1859.

59. The Practitioner, London, September, 1869.

60. Handbook of Therapeutics. Sidney Ringer, M.D. 4th Edition. London, 1874.

61. Letters on Chemistry. 1st Series, London, 1844, p. 57.

62. Animal Chemistry. London, 1846, xix., p. 116.

63. Du Rôle de l'Alcool, et des Anesthésiques dans l'Organisme, Recherches Expérimentales. Paris, 1860.

64. Union Médicale. Sept. and Nov., 1863.

65. Lect. on Clin. Med. Paris. 1870. III., 431.

66. Practitioner. London. July, 1875.

67. Bacchus, 1st Ed. London, 1839, p. 330. Ibid., p. 334.

68. Prof. Schultz on the Rejuvenescence of Man. Berlin, 1842, pp. 171-2.

69. Works of Dr. F. R. Lees. London, 1857, III., 87; Ibid., App. p. c.; Ibid.,

Brown in 1858 (70), and by Edmunds in 1867 (71).

The remarkable series of experiments on a healthy man of twenty-six years of age, by Parkes and Wollowicz (72), showed that the action of the heart is enormously increased under alcohol, so small a quantity as one ounce causing that organ to beat 4,300 times more in the twenty-four hours.

Though great light has been thrown on the phenomena of alcoholism by Wilson (73), and Sewell (74), Lee (75), Youmans (76), Hammond, Davis, and others in America, and (especially on the differential action of the various alcohols) by a host of Continental practitioners, we know as yet little or nothing of the chemical behaviour of alcohol in the living frame.

But we do know enough of its effects to warrant us in affirming, with Thudicum and Dupré, that "alcohol is a poison even in small doses" (77), and with Sir Wm. Gull, that it is "the most destructive agent known to us in this country" (78).

The very few physiologists who argue that alcohol has any food power admit that this is a very low power, while all are agreed in classing alcohol as an irritant narcotic poison.

In the enlightenment of the profes-

sional and public mind Dr. W. B. Carpenter's splendid prize essay, in 1849, played no mean part (79). His indictment, on physiological grounds, of all habitual drinking is unanswerable.

It is an act of simple justice to state that nearly all the opinions now held by the highest scientific authorities were anticipated and formulated by a gentleman who is not a member of the medical profession. The temperance movement would have been in a very different position to-day had it not been for the research, learning, and popular exposition of the action of alcohol for which we are indebted to Dr. F. R. Lees, of Leeds. No language can express my sense of the obligations we all owe to Dr. Lees for his masterly criticisms of the productions of a long succession of medical antagonists, and for his unrivalled contributions to the literature of alcohol. From 1839 till the present time he has lectured on the science of temperance all through the land, insisting from the first on the narcotic, benumbing, paralysing action of alcohol; and he anticipated by twenty years the chief and most certain principles now all but universally accepted by genuine physiologists. His definition of food in its three aspects has been adopted in the recent great work of Baer, of Berlin, on "Alcohol" (80). Not the least valuable of Dr. Lees' services to temperance physiology was his translation and popularisation of Lallemand, Perrin, and Duroy, an undertaking which moved the scientific world of Britain to its very centre.

ALCOHOL AS A MEDICINE.

George Cheyne (81), James (82), and Trotter (83), all denounced, in no mea-

App. p. cviii.; Ill. Hist. of Alcohol Lond., 1843.

70. Brown-Lees Discussion. Manchester, 1859.

71. *Alliance News*, Manchester. 2nd March, 1867.

72. Proceedings of Roy. Soc. xviii. (1870).

73. The Pathology of Drunkenness. Charles Wilson, M.D., Edinburgh, 1854.

74. Path. of Drunk. Prof. Sewell, of Columbia. (Ill. Hist. of Al. Lees, London, 1843.)

75. Notes to Am. Ed. of Bacchus. C. A. Lee, M.D., New York, 1840.

76. Alcohol. E. L. Youmans, New York, 1861.

77. Origin, Nature, and use of Wine. J. L. W. Thudicum, M.D., and A. Dupré, London, 1872, p. 125.

78. Evid. before the Lords' Com. Cont. Rev., Sept., 1878.

79. The Physiology of Temp. and Total Abstinence. W. B. Carpenter, M.D., F.R.S., London, 1849.

80. Alcoholismus. Dr. A. Baer, Berlin, 1878.

81. 1725.

82. 1747.

83. 1804.

sured terms, the routine medical prescription of intoxicating liquors, the latter insisting on alcohol being given in drops like tincture of opium. In later times Higginbottom, Bennett, Beaumont, Mudge, and Nicholls carried on extensive practices while dispensing entirely with beer, wine, and spirits; Collenette and many others are still alive pursuing a like course; and there are now several workhouse infirmaries (84) and parochial districts, as well as a Temperance Hospital, where the medical officers prescribe almost no alcoholic beverages. At the recent national medical meeting at Cork there was a strong feeling expressed by nearly all the speakers in a discussion (described by the president of the section, Dr. Andrew Clark, as the most satisfactory discussion he had ever listened to) on alcohol in fever, that alcohol must be prescribed with as much care as any poisonous drug. The agitation on the administration of alcohol in workhouses and other public institutions, which is penetrating from one end of the country to the other, has been the work of members of the medical profession.

PRESENT ATTITUDE OF THE PROFESSION.

The National Temperance League, by conferences during the past nine years with medical men, did much to prepare the way for the young and promising British Medical Temperance Association. Dr. Richardson's accession to the presidency of the Association, and the distribution of his inaugural address, with a blank form of membership enclosed, to the whole profession (18,000 in number) have increased our numbers from thirty-five a few months ago to over

84. Notably St. George's, Hanover Square; Chester; and Wrexham.

200. I had the honour, in the name of this vigorous society, of recently entertaining at Cork the president, officers, and leading members of the British Medical Association. The venerable president of this "annual medical parliament," Professor O'Connor; the president of the council, Dr. Alfred Carpenter; the secretaries, Professor McNaughton Jones and Dr. Ringrose Atkins; and the Editor of the *British Medical Journal*, all commended our efforts, and bade the Medical Temperance Association a hearty Godspeed.

The quarterly *Medical Temperance Journal* contains the proceedings of this new professional abstinence society, and ought to be read by every intelligent friend of the great and good cause we all have at heart (85).

Besides the 200 who have openly avowed their abstinence by joining the Medical Temperance Association, letters received from many doctors who desired to record their thanks for Dr. Richardson's address indicate that there are probably as many more who are personal abstainers, but who are not yet prepared to become members of any temperance society. This is an immense advance, and is but an earnest of the coming rapid spread of the practice of abstinence throughout the medical profession; for the history of this great and self-denying class has ever shown that, rising above all personal and sordid considerations, when once their conscience is aroused and the path of duty made clear, nothing will be allowed to stand between them and unflinching loyalty to

"The message of a truth Divine,
The call of God from heaven."

85. *Medical Temperance Journal*, price 6d., or 2s. per annum post paid. Tweedie and Co., 337, Strand, London, W.C. The July number began the present volume.

Notes and Extracts.

DR. B. W. RICHARDSON ON NARCOTICS.—Dr. Richardson has disclosed his experience of chloral and other narcotics in a singularly lucid article contributed to the July number of the *Contemporary Review*. He selected for special examination three of those toxic agents whose popularity is becoming increasingly dangerous—viz., chloral, opium, and absinthe. He is of opinion that the growing practice of habitually taking chloral hydrate is alike injurious to the mental, moral, and physical life; and that there is “a considerable community addicted to the habitual use of chloral hydrate on one pretence or another.” Dr. Richardson believes that the misapplication of *opium* is dying out. He utterly disclaims the notion that total abstiners are addicted to opium eating—“The facts really tell all the other way. Those men and women who abstain from one form of intoxicant most resolutely abjure all forms, and those who indulge in one form are more apt than the rest to indulge in more than one. . . . In the whole of my intercourse with the abstaining community I have never met with an instance that afforded so much as a suspicion of the practice of indulging in narcotism from opium or any other similar drug.” The consumption of *absinthe* is believed to be on the increase. In addition to the pleasurable gratification which it is supposed to afford, its devotees are deluded with the notion that it serves as a tonic and aids digestion. Its composition is essence of wormwood, sweet flag, aniseed, angelica root, and alcohol. The sensations it induces are, “first, the exciting, relaxing influence of the alcohol, and afterwards the constringing, suppressing influence of the secondary poison. The sufferer—for so he must be called—is left cold, tremulous, unsteady of movement, and nauseated.” In extreme cases epilepsy ensues. Few toxics entail so much evil to the digestive fluids. Verily, the writer

exaggerates not in declaring that “a more consummate devil of destruction could not be concocted by the finest skill of science . . . than is concocted in this destructive agent—absinthe.”

THE HABITUAL DRUNKARDS ACT.—On the 29th July a General Meeting of the Society for promoting Legislation for the Control and Cure of Habitual Drunkards was held at Adam Street, Adelphi; the Earl of Shaftesbury, President, in the Chair, supported by Mr. Charley, M.P., Surgeon-General Walker, Dr. Doxey, Colonel L'Estrange, and others. Dr. Alfred Carpenter moved:—“That this meeting is of opinion that a vigorous effort should be made to promote the establishment of typical institutions suitable for the treatment of all classes of habitual drunkards.” The resolution was seconded by Dr. Grindrod, of Malvern, and adopted. Lord Shaftesbury spoke strongly on behalf of the Society, and urged those present to support it.

THE BARK CURE.—We have received the July number of the *Medical Temperance Journal*, which contains, among other most interesting matter, a paper by Dr. Norman Kerr on the bark cure for drunkards. Dr. Kerr, in the paper before us, attacks the so-called bark cure and easily overturns it. We can confirm Dr. Norman Kerr's opinion. Having been pressed by the friends of an unfortunate drunkard to try this new remedy we administered it exactly as directed. We found the red bark a good tonic, but nothing more. Our patient visited us some time after his convalescence, with a powerful odour of alcohol about him, and we have ascertained from his distressed friends that he is pretty much what he was. We are inclined to think the whole thing another American dodge—and a very clever one. The moral is a sad one. We have another proof of how many habitual drunkards we have in our midst. Surely the new Bill has not passed a day too soon.—*Edinburgh Medical Journal*.

THE
MEDICAL TEMPERANCE JOURNAL.

January, 1880.

Original Contributions.

ALCOHOL IN THE TREATMENT OF TYPHOID
FEVER.

SIR WILLIAM JENNER has recently submitted to the profession his views on the treatment of typhoid or enteric fever. Perhaps no man is better fitted to speak or write on such a theme; not only has he paid special attention to the subject of typhoid, clinically and pathologically, but, as he states at the outset of his lecture, he has had, for a longer period probably than any of his hearers, "much experience in the treatment of the disease." He has also had, "during late years, frequent opportunities of seeing the results of various modes of treatment as practised by others." Sir William, moreover, is a very cautious physician; instead of dogmatising, as many an inferior man with his large experience would have done, he frankly admits the imperfection of his knowledge, and strongly urges a tentative policy. The very first lesson which this great master teaches, clearly shows his appreciation of the difficult task which the treatment of typhoid involves. He says:—"In so complex a disease as typhoid fever—the mortality and symptoms of which vary not only with the age, habits, and family constitution of the patients but also with the dose and mode of access to the system of the poison, the conditions which precede and those which accompany the disease during its incubative period and its earliest development, the epidemic constitution, the date at which the disease is first treated, and the early management of the patient—it is scarcely possible to find two cases in all respects identical, and quite impossible to collect records of a sufficient number

of cases practically identical to determine by numerical analysis the best mode of treatment." But this is not the full extent of the difficulty. We are told that "even of the specially prominent symptoms—*e.g.*, temperature, rapidity of pulse, diarrhœa,—each one may owe its origin to such different pathological conditions; and it is so often impossible to determine in any given case to which of these several conditions it is due, that in the *present state* of pathological knowledge it seems to me that it is impracticable to determine otherwise than by the opinions formed by individuals from personal experience, what are the best means to be employed in the treatment, not only of typhoid fever itself, but also of each symptom, and how and under what circumstances each remedy should be employed."

Sir William says, emphatically:—"I have never known a case of typhoid fever cut short by any remedies—that is cured. . . . If the patient can be kept alive for a definite time, the disease ends, and then if no local lesion remains to constitute a substantive disease, the patient is well." This statement presents a serious rebuke to those who have a firm faith in the potency of quinine, wine, &c., to cure or cut short an attack of typhoid. There is little doubt that the majority of medical men place far too much faith in drugs and too little in good nursing, feeding, and the careful watching of symptoms, as they arise. Art is made far too much of, nature far too little. The younger class of practitioners are somewhat prone to the over-use of drugs, and especially to the administration of large quantities of wine. Now, whilst patients who attempt to treat their own cases are usually chary of the use of medicaments, they very often fly to stimulants. Sir William refers to the serious and even fatal consequences which occasionally result to individuals who thus prescribe for themselves. Speaking of one of these, he says:—"He," (the patient) "may think the weakness he feels is to be removed by food and wine. A dose of medicine, he says, cannot hurt; bed, he thinks, weakens; food and wine, he knows, restore strength; therefore he prescribes a dose for himself, which irreparably injures his bowels," &c. This is too frequent a practice with mothers and wives: some member of the family suffers from debility, really the first symptom of acute specific disease; it is a household tradition that wine gives strength, and this is supported by the remembrance that the family doctor when called in to an apparently similar case, ordered a glass of "generous" wine to be taken three times a-day. Under treatment like this, matters grow seriously worse, and the doctor subsequently makes the discovery that, partly at least, owing to his former loose method of prescribing, the patient's life is put seriously in peril. Almost every medical man must have met

with enteric cases, where the mischief has been greatly aggravated by the use of wine or brandy, before he was called in. A popular plea at Brewster sessions, on behalf of some applicant for a spirit license is, that in case of sudden illness, brandy cannot be obtained in the neighbourhood. The writer well remembers an instance in which this argument was successfully used. Not long afterwards the new landlord was seized with illness, involving abdominal pain; instead of sending for a medical man, he dosed himself with brandy; things going from bad to worse, the family doctor was sent for, but too late; the man speedily sank. Thus, unfortunately, as too often happens to publicans, "The engineer was hoist with his own petard." In order to diminish the number of such cases, it is exceedingly desirable that medical men should not only avoid the loose but popular prescription of alcohol, but that they should do all in their power to discountenance it.

Sir William, as already stated, strongly urges and reiterates the importance of great care in the treatment of typhoid. "More lives," he says, "may be cured by the judicious treatment, and more lives lost by the improper treatment, of typhoid fever than of any other acute disease." Further on he says, "My experience has impressed on me the conviction that that man will be the most successful in the treatment of typhoid fever, who watches its progress, not only with the most skilled and intelligent, but with the most constant care, and gives *unceasing attention to little things*; and who when prescribing an active remedy, weighs with the greatest accuracy the good intended to be effected, against the evil the prescription may inflict, and then if the possible evil be death, and the possible good short of the saving of life, holds his hand."

Now we cannot help thinking that, whilst on most points Sir William very closely conforms to the condition which he thus eloquently lays down, he rather fails in one particular: his prescription of alcohol does not indicate an "*unceasing attention to little things*." (The italics are Sir William's.) The use of alcohol is frequently recommended, but neither the form in which it is to be administered, nor yet the quantity, is always stated. We know that different brandies vary greatly in strength as well as in quality. Then how many and how variable are the combinations which are included under the generic term "wine"? Is it matter of no consequence when the patient is in a prostrate yet highly sensitive condition, when life is flickering on the verge of expiry, whether port or sherry, claret or champagne, is the article to be administered? But what of adulteration? It is notorious that no articles are more frequently manipulated or fabricated than the various brandies, except the various kinds of wine.

The concoctions which are sold under the names of port, sherry, champagne, &c., are at times almost diabolical, enough so to make one exclaim with Charles Mackay:—

“To the sewers and sinks with all such drinks,
And after them tumble the mixer,
For a poison malign is such Borgian wine,
Or at best but a devil’s elixir.”

But even if the articles recommended were pure they undoubtedly, perhaps more than any other article, produce different effects on different people, both in health and disease. A single glass of wine will far more sensibly affect one man than a bottle thereof will affect another. The writer knew a man who would be set nearly mad by drinking half a teacupful of ale, and a single glass of wine was a debauch to the poet Pope. As an example of an opposite kind may be mentioned an old sea captain whom the writer has often seen, who for years had been accustomed almost every night to take at least sixteen tumblers of whisky punch. It will perhaps be said that the same objection might be urged against Sir William’s occasional prescription of opium, but it is a sufficient answer to state that he again and again specifies that the dose of laudanum, taken by the mouth, should be restricted to from three to five drops, or from ten to fifteen drops if given in an enema. Moreover the prescription of the quantity of a drug like opium is of far less importance than is the specification of the quantity of alcohol, because the amount of opium contained in laudanum is fixed by a standard, and the practitioner knows pretty exactly what he is really prescribing,—the very opposite of what occurs in the prescriptions of most alcoholics. It is only right to say that Sir William states that he does not usually recommend any but the smallest doses. He admits, indeed, that “a large number of cases of typhoid fever end favourably without alcohol being prescribed from the beginning to the termination.” He says further: “The quantity of alcohol prescribed should be as much only as may be necessary to effect the object for which it is prescribed.” And again we are told: “Nearly all the good effects of alcohol when its use is indicated, are obtained by four, six, or eight ounces of brandy in twenty-four hours.” He tells us moreover that: “For the last thirty years I have made it the rule of my practice in the treatment of typhoid fever, to abstain from giving alcohol in the case before me, if I *doubted* the wisdom of giving it; when in doubt I do not give alcohol in typhoid fever, and when there is a question in my mind of a larger or a smaller dose, I, as a rule, prescribe the smaller.” This is so far good, but is not so specific as it should be in dealing with so terrible a disease as typhoid,

Moreover he speaks not only without reprobation, but with something like apparent approval, of the administration of a much larger quantity of alcohol. He says:—"In the fourth week, to tide the patient over the concluding days of the disease, it may, as a rule, be given more freely than in the second or the beginning of the third week of the disease; but it is in exceptional cases only that more than twelve ounces of brandy in the twenty-four hours can be taken, without inducing some of the worst symptoms of prostration." Can any candid person, who really thinks seriously about the matter, doubt that the administration of six glasses of brandy in the day and night would be likely to have a prejudicial effect, physically and morally, in the majority of cases? If it were desirable to retard the recovery of the patient, and if it were in addition a praiseworthy act to confirm him in intemperate habits, or to infect him therewith, then such a free administration of brandy would be proper. If, on the other hand, it were desirable to get patients well quickly, and to try to eradicate the terrible appetite which leads to so much sickness, and which sends such numbers into hospitals, then the free use of brandy should be unhesitatingly and universally condemned.

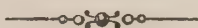
Sir William recommends the use of wine as a cardiac and gastric stimulant: he believes that it aids the heart and stomach; but we know that too often the wine of the present day, like that of old, "is a mocker;" it flatters the taker at the outset with increased circulatory vigour, and increased digestive power. The physician who recommends liquor, too often, like the witches in *Macbeth*, keeps the word of promise to the (patient's) "ear, but breaks it to the sense." The primary feeling of invigoration, the cheeriness at first experienced, give way, after a time, to a sense of lassitude and depression; the appetite after a few days is apt to flag, the digestion remains weak, convalescence is protracted, and life occasionally imperilled.

It does not seem to have occurred to Sir William, that some substitute might possibly be found equally effective as a nervous stimulant, without any of the dangerous qualities of alcohol. It is well known that Liebig's extract of meat acts admirably as a substitute for wine or brandy in case of cardiac weakness, as well as an excellent appetiser and aid to nutrition. The writer had recently under his care a man suffering from hypertrophic cirrhosis; there was gastro-intestinal ulceration, emaciation, nightly rise in temperature. Subsequently there came on gradually, at intervals, distressing attacks of collapse. It was only after the third attack that the patient mentioned the matter; he then stated how greatly he dreaded another, and that death itself would be preferable. The poor fellow had been carefully

dieted, but the stomach was irritable, and the quantity of food taken therefore was only small. Liebig's extract of meat was ordered, a teaspoonful dissolved in four ounces of warm water, to be taken about every four hours, in addition to any other light nutrient, along with pepsine, which he could imbibe. The result was gratifying, there were no more of the distressing attacks; and though the case terminated fatally from gastro-intestinal hæmorrhage and biliary toxæmia, yet there could be no question of the benefit experienced from the use of the extract.

It should not be forgotten that the question of the administration of stimulants has a moral aspect which is certainly deserving of attention. We are all aware of the agreeable sensations which wine usually excites in convalescents: the memory of the pleasurable experiences is apt to haunt the mind afterwards, and the desire for their renewed enjoyment frequently arises. Thus habits of tippling are sometimes established. A lady under the writer's care had a severe attack of gastro-intestinal catarrh. Every attempted remedy failed till brandy was tried. Some time afterwards the writer learned that whenever she had any symptoms of gastric irritability—a rather frequent occurrence—she had recourse to brandy: previously she had been extremely abstemious, but she ultimately became lamentably addicted to the use of alcohol, a circumstance which the writer often thinks of with deep regret. It need scarcely be said that whilst believing that in a few cases brandy is a valuable remedy, yet the writer never orders it until all other agents fail. Some medical men seem altogether to ignore the moral consideration involved in the administration of alcohol. The writer was called suddenly to see a female of the middle class who was suffering from hæmatemesis in a rather severe form. There was some enlargement of the liver and constipation of the bowels, great irritability of the stomach, no food was retained; hence there was great depression and danger of collapse, from hæmorrhage on the one hand, and the absence of nutrition on the other. A second opinion was requested and agreed to. There was reason to believe that the enlargement of the liver was due to the use of wine and brandy. Not only was there hepatic, but gastric congestion, hence the hæmatemesis. The consultee urged that champagne should be given to rouse the patient from her very low condition, and to allay the vomiting. The writer strongly objected to this course, not only on physical grounds, but more especially for moral reasons. "Oh!" was the smart reply, "we have nothing to do with moral considerations; we must only think how we can best save our patient from sinking." Each side was firm, and it was announced to those concerned that the doctors disagreed. The family expressed their strong desire

that the writer should act on his own judgment in the matter; he had their full confidence, having attended various members previously. Ice had been applied externally and given internally with milk, beef-tea, &c.; this was continued. Half a seidlitz powder was given, and ordered to be repeated; shortly after the second dose the sickness ceased, and the bowels acted; there were thick pitch-like stools. Light food could now be taken, and the lady made a speedy recovery. Now it is possible that, if champagne had been given, the carbonic acid might have acted for a time as a sedative to the gastric mucous membrane, but it is highly probable that the liver inaction would have been aggravated. But, even if the lady had recovered, it is a question whether the remedy would not have been worse than the disease. The tippler would have been confirmed in a dangerous habit; she would have clung with dire tenacity to the belief that wine had saved her life, and that it was necessary to her existence. Husband and relatives would have been almost powerless to contend against a most expensive and fatal habit. The medical man is bound not only to try to cure his patient quickly and pleasantly, but also safely. The use of alcohol in the treatment of disease is attended by peril, moral and physical.



ON SOME SUBSTITUTES FOR ALCOHOL IN THE TREATMENT OF FEVERS.*

By FRANCIS VACHER, F.R.C.S. Edin., *Birkenhead*.

IN February, 1876, a small Fever Hospital was opened at Birkenhead, and I was appointed physician to it. I had then been personally an abstainer from alcohol for about two years, and during the same period had refrained from prescribing it in the few cases, surgical and medical, in which my advice was sought, so that I felt the appointment placed me in a somewhat embarrassing position. Either I must abandon a principle that I had lately striven by example and practice to sustain, or I must do violence to the memory of the teaching I had received at the schools. If it were really true that alcohol was not necessary to sick or sound, fever patients might well dispense with it; yet, on the other hand, I could not forget that in the whole range of therapeutic medicine there was scarcely a point more emphati-

* A paper read at the Quarterly Meeting of the British Medical Temperance Association, November 13, 1879.

cally insisted upon than that alcohol was indispensable in the treatment of fevers. It was not only that I had been taught that alcohol was the one reliable remedy in dealing with febrile disease by my earliest instructors, but the results of nearly all my subsequent reading had confirmed me in the carefully-instilled belief—Graves, Stokes, Todd, Anstie, and so many physicians of less note, were all agreed in this respect. Nay, more, I had a terrible experience of an attack of typhus lasting many weary weeks, my recovery from which I was told, and hardly dared to doubt, was in great part due to the brandy I assimilated.

The *medicinal* applications of alcoholic beverages were by all accounts so many it seemed as if by carefully adjusting the dose one could obtain any desired result—stomachic, stimulant, sedative, narcotic. Then the variety of the beverages proffered to the physician for him to select from was even more striking. Did he desire a cordial, he was referred to brandy; a sudorific, there was rum; a diuretic, what better than gin? Dry wines and bitter beer made excellent tonics, stout and some sweet wines were gently laxative, clarets for the most part astringent and febrifuge. I say nothing of the *dietetic* properties of spirits, wines, and malt liquors. It has been recorded of them that they are even of more value as aliments than as medicines; thus to do without them would be voluntarily to surrender at once the best of remedial agents, and the most nourishing and easily-digested food.

I entered upon my duties as a fever-hospital physician with some diffidence; not, of course, with a set purpose that no alcohol should be administered, but disabusing my mind of the old notion that this or any other drug was essentially necessary. Each case should have my best attention, and when symptoms manifested themselves which I should, according to the old teaching, have regarded as demanding alcohol, I would first try if they were amenable to some other therapeutic; and, failing this, the old remedy would be available. I find that from the date of the opening of the hospital up to the end of last year (a period of less than three years) there were admitted under my personal care 243 cases, so that I am in a position to speak with some confidence of my practice. In not one of these cases have I had occasion to prescribe alcohol or alcoholic liquors, except in the form of compound tincture of bark, aromatic spirit of ammonia, chloric ether, &c., the dose, even of the bark tincture, rarely exceeding half a dram. I have not taken out my results for this paper, but I may say that on the whole I believe them to be satisfactory. Some time since I tabulated the results in about half the number of cases I am now speaking of, and compared them with a similar number of cases treated mainly with alcohol

at a neighbouring hospital, in the same period of time, and the return showed my fatality to be scarcely more than half that obtaining in the companion establishment. However, I do not wish to dwell on this. Comparing the mortality of one hospital with another savours of invidiousness, and mortality statistics considered alone prove very little. My object now is not to say anything for or against the treatment of fever with alcohol, but simply to put in a few words in favour of some of the remedial agents which may, at the discretion of the physician, be made to take the place of alcohol. My allusion to the Birkenhead Fever Hospital was in justification of my claim to be heard on the subject. I wished you to understand that for three years I had been casting about for substitutes for alcohol in varying cases and circumstances. I then felt sure I should have your attention while I summed up the outcome of my experience, and named the substitutes I inclined to trust in and believed would fulfil the indications required.

Let us take an ordinary case of typhus. It will not unfrequently happen that towards the end of the first week, or perhaps later (pyrexia not being excessive), the small, rapid, compressible pulse, and feeble heart-beat, warn the practitioner that the fever is assuming an adynamic type, and that what is commonly called a stimulant is required. Or it may chance that in the first week or later there is delirium, not accompanied with much restlessness, but persistent and marked by defective utterance. This, too, is asthenic, indicative of a starved brain, due to depressed cerebral circulation. Again, there are cases of typhus in which the patient before the close of the first week manifests symptoms almost exactly opposite to these. The temperature is probably higher, or, at all events, reaches a higher maximum; the pulse and heart-beat are irregular and intermittent, and the patient is restless and struggling, and has delusions, but articulates well and has distinct lucid intervals. Yet, again, there are cases where the condition usually regarded as calling for alcohol is a fall in the pulse-beat without a corresponding fall in temperature. The pulse is soft as well as slow, and the heart-sounds somewhat muffled. These four conditions, differing outwardly, are alike in this that they are all due to impaired circulation, and would all, I believe, be accounted by most practitioners as warranting, if not demanding, a resort to some form of alcoholic liquor. The question is—Will anything else increase the force of the heart and improve the capillary circulation? There need be no hesitation about answering in the affirmative. I am in the habit of using three drugs for this purpose—ammonia, cinchona, and camphor. They certainly do the work required of them, and are, I submit, less likely than alcohol to be followed by

undesirable reaction, to interfere with secretions, and derange digestion. Carbonate of ammonia has a bad reputation for disturbing the stomach and bowels, but I have not found it do so. However, should it be found to have this effect, the aromatic spirit of ammonia can be given instead. Cinchona is said to constipate, and it certainly does in some cases, but the defect is easily corrected by adding a little infusion of senna, itself a gentle stimulant. I nearly always prescribe the decoction of cinchona, the tincture of the same, and ammonia in a mixture, and this is felt by patients to be such an excellent substitute for wine that, occasionally (I suppose only when the taste is much impaired), they mistake it for wine, speak of it as wine, and ask for it. I may remark, also, that there is a manifest advantage which ammonia and bark have over alcohol—they never encourage coma. I remember that Sir Thomas Watson says of opiates in fevers that “they are apt to puzzle and perplex the case. You do not know how much of the disposition to coma is owing to disease, and how much is the consequence of the remedy.” Again, he adds, “You may easily augment the natural tendency to coma, and lull your patient into a fatal stupor.” These observations, it appears to me, are as applicable to alcohol as to opiates. As regards camphor, it may be trusted to increase the force of the circulation, and is a good stimulant; but it is I think less adapted for the states I have been speaking of than for those now to be referred to.

There are cases where the circulation is less affected than the nervous system; or rather, there are periods in certain cases when such is the condition. Possibly this is not literally true. The circulatory and nervous systems are so intimately connected, and in fever both are so obviously disturbed, it becomes impossible to refer a particular set of symptoms to either exclusively or primarily. However, I speak conventionally. On the appearance of these symptoms, I think it would be generally held that alcohol was indicated, the influence it exerts on the nervous system being undoubted. The pulse is rapid but firm, the skin is dry, the mouth is parched, the head is very hot, there is vertigo, and sometimes noisy delirium, the feet are often cold. If the patient be not gently and successfully guided through this stage of his malady, by nature or art, it soon merges into another, the more marked symptoms of which are subsultus and tremor, and sometimes hiccough. Now how are we to manage a case at a time when the head symptoms constitute the main feature? Having applied ice, or an evaporating lotion, to the head, if necessary, warmth to the feet, and arranged that the patient is sponged all over at least once a day, what else can we do? Small doses of alcohol given from time to time when the patient is quiet, and

which are not large enough to depress unduly, often seem to affect the patient favourably. Will anything else act as a sedative to the nervous system as well or better? My answer is that small doses of camphor will. Under its influence the excitement is allayed, the headache abates, and sleep is more likely to be induced than by alcohol. Is it necessary to give anything else; for instance, to induce the skin to perform its functions? I think not, camphor being an excellent diaphoretic. In such a case I might prescribe also a little *liquor ammoniæ acetatis*, and a small dose of Dover's Powder nightly. But this is a small matter. I should not regard either the acetate of ammonia or the powder as substitutes for alcohol, but the camphor only.

And if alcohol, or whatever has been given instead, has failed to control the so-called typhoid symptoms, or if no attempt has been made to control them, and the patient as presented to the practitioner for treatment is in that last stage which so often heralds death, is alcohol the only remedy then on which any sort of hope can be built? When the surface temperature has fallen, when carphology has given place to a mere trembling of the fingers, when the watching has been succeeded by stupor, when the anxious expression is fading from the face, and the dusky hue is deepening, when there is paralysis of the sphinctor and incontinence of urine, is there yet an alternative? There is. The desideratum at such a time is something the effect of which will be at once appreciable, and for this reason I prefer the *Spiritus Ætheris Comp.* combined with the aromatic spirit of ammonia, and given in small doses frequently repeated. The required effect is more rapidly produced than with alcohol. The patient will soon be roused enough to take strong coffee or tea, and the danger from coma will be over for the present.

A word now on patients of intemperate habits. Authorities on the subject are for the most part agreed that alcohol is particularly called for in typhus occurring in persons addicted inordinately to the use of spirituous liquor. However, a similar opinion lately obtained as to the dosing of delirium tremens patients with alcohol, but it is not the method of treatment now most in favour. I doubt if alcohol is beneficial in either instance. The special characters of typhus in a person of intemperate habits are probably the early appearance of the head-symptoms and their persistence, and tremor, great thirst and insomnia. For the abatement of these I incline to trust to camphor and ammonia, a drink made of meal and camphor-water, and either chlorodyne or hydrate of chloral at night.

There are several distressing symptoms likely to arise in the course of fever, for the relief of which alcoholic liquors are commonly prescribed. Let me now briefly consider some of

them. The more significant are rigors, syncope, hard dry tongue, gastrodynia, and profuse perspirations. As soon as a fit of rigors commences, or is merely threatening, the familiar remedy is brandy, or rum-punch. I do not doubt its efficiency, but any hot drink, as hot as the patient can swallow it, is also efficient. A few tea-spoonfuls of the pharmacopœial syrup of ginger, or, better still, a few slices of the preserved green rhizome, stirred in a tumbler of hot water, makes an excellent punch for this purpose. In fainting, I should rely mainly on external stimulants, and if I gave anything by the mouth it would be Hoffman's ether and ammonia, rather than brandy. I have never understood why alcohol should be recommended when the tongue is exceptionally hard and dry. I am convinced that grapes or some other ripe fruit, will be found the best remedy in such cases. The glucose therein contained is good food, and will be digested when, through the deficiency of saliva, scarcely any other food would be. Again, fruit will be more acceptable to the patient than the finest wine. As gastrodynia is nearly always due to dyspepsia, it should be regarded rather as an indication that the patient's diet-slip requires revision, than as calling for a specific remedy. Profuse perspiration, not coming on at a crisis, but earlier, and continuing without improvement in the general symptoms, is a most troublesome complication, and always indicative of great weakness. It is more likely to yield to quinine than to alcohol. I should sponge the body with dilute acid, and give sulphate of quinine in 2-gr. doses, with or without iron. Unless these debilitating perspirations are treated timely and wisely the patient may sink altogether, or pass into a condition I can only describe as idiopathic hectic.

There is a condition occasionally met with in fever, in which gin is at once suggested to the practitioner. The kidneys are not acting freely, and there is fear of the blood becoming loaded with effete matter, and the typhoid state being induced. What substitute have we for gin in such a case? First, there are the pharmacopœial preparations of juniper; and secondly, there is belladonna, which will not only promote elimination from the kidneys, but strengthen the circulation, and allay nervous excitement.

I have been speaking hitherto of typhus, because this has been generally recognised as the type of all fevers proper to this climate; but I do not mean that what I have said should apply exclusively to typhus. This of all fevers is liable to take the asthenic form, this of all liable to become ataxic. My argument is thus from the greater to the less. If in typhus, a disease mainly of adults, of the destitute and ill-fed, it is practicable to do without alcohol, surely there can be no necessity for it in enteric fever, a disease

chiefly met with in youth and adolescence, and in the well-to-do classes, or in scarlet fever, a disease of children in whom the circulation is strong and the pulse firm.

Now, as regards convalescence. It is usual to prescribe wine and malt liquors for convalescents. I would submit that plenty of fresh, sweet fruit, is preferable to wine; and I suppose it will now be generally allowed that properly prepared malt extract feeds the patient, and assists digestion better than beer or porter. The lighter preparations of animal food, such as plain chicken soup, Gillon's essence of beef, calves' feet jelly, and fresh serum of blood, may not only be made to take the place of alcoholic liquor during the fever and during convalescence, but they will go far towards removing the craving for it. Nearly all patients, too, know how to appreciate that pleasant combination of animal and vegetable food, a well made *purée*.

Finally, I think that in treating fever cases some of us do not sufficiently consider what a very useful therapeutic agent is cold water. Ministering relatives and nurses will speak of it as "raw" water, and are always adulterating it in various ways for the purpose of "taking the rawness off," whatever that may mean. It can scarcely be called a substitute for alcohol, but it does much that alcoholic liquors are expected to do; it is a diuretic, a diaphoretic, a febrifuge, and a great many other things besides. There are few fever patients who do not long for it and pray for it. Why should we refuse it?

" 'Tis a little thing
To give a cup of water; yet its draught
Of cool refreshment, drain'd by fever'd lips,
May give a shock of pleasure to the frame
More exquisite than when nectarean juice
Renews the life of joy in happiest hours."



THE INFLUENCE OF ALCOHOL ON LIVING CELLS.

By J. JAMES RIDGE, M.D., B.S., B.A., B.Sc. Lond.

Medical Officer to the London Temperance Hospital.

It will be remembered that the President of the British Association, Professor G. J. Allman, M.D., F.R.S., in his address at Sheffield, in August last, took for his subject "Protoplasm." In the course of his address he dwelt upon the uniformity of protoplasm, "the physical basis of life," in both the

animal and vegetable kingdoms, and adduced several reasons for believing that "there is no essential difference between the protoplasm of plants and that of animals." "Indeed, all recent research has been bringing out in a more and more decisive manner the fact that there is no dualism in life—that the life of the plant and the life of the animal are in all essential points identical." Dr. Allman gives, as one proof of this identity, the fact that plants may be placed, just like animals, under the influence of anæsthetics. The reason why chloroform and ether produce unconsciousness is that they arrest the irritability of the delicate nervous structure of the brain, so that the nerve-currents passing to the brain from wounded or irritated parts of the body are unable to excite the nerve-cells therein. The irritability of the spinal cord, of the muscles, and of the rest of the body, is suspended in the same way by increasing the amount of anæsthetic, and may be at length totally destroyed. Dr. Allman proceeded to describe some of the experiments of M. Claude Bernard on this subject. The latter showed that chloroform and ether were able to arrest the irritability and movements of the sensitive plant so that it failed for the time to give any response to external stimuli in the usual way. He then said—

"It is not, however, the irritability of the protoplasm of only the motor elements of plants that anæsthetics are capable of arresting. These may act also on the protoplasm of those cells whose function lies in chemical synthesis, such as is manifested in the phenomena of germination of the seed, and in nutrition generally; and Claude Bernard has shown that germination is suspended by the action of ether or chloroform. Seeds of cress, a plant whose germination is very rapid, were placed in conditions favourable to speedy germination, and while thus placed were exposed to the vapour of ether. The germination, which would otherwise have shown itself by the next day, was arrested. For five or six days the seeds were kept under the influence of the ether, and showed during this time no disposition to germinate. They were not killed, however, they only slept, for on the substitution of common air for the etherised air, with which they had been surrounded, germination at once set in, and proceeded with activity."

In another experiment M. Bernard showed that the cells of the yeast plant could also be sent to sleep by means of ether, and were then unable to separate sugar into alcohol and carbonic acid. At the same time the cane sugar was changed into grape sugar in the usual way, since, as Bertholet showed, this is dependent on another ferment which, while it accompanies the living yeast plant, is itself soluble and destitute of life; hence it was not affected by the anæsthetic. In the same way it was found that the chemical changes which take place in a germinating seed under the chemical influence of the lifeless ferment diastase, by which starch is converted into sugar, with the absorption of oxygen and evolution of carbonic acid, proceed as before. M. Bernard also found that the function of the green

parts of plants, the cells of which contain chlorophyll, which function consists in absorbing carbonic acid and exhaling oxygen, is arrested by anæsthetics: but the real respiration of the plant, which goes on both day and night, uninfluenced by light, is also uninfluenced by anæsthetics. In this respiration oxygen is absorbed and carbonic acid is evolved exactly as by animals, and thus another proof is furnished of the similarity of both vegetable and animal life.

On reading his account of the influence of ether and chloroform on protoplasm, it occurred to me that it would be desirable to discover what effect, if any, alcohol would have under the same circumstances. I therefore performed the following experiment:—

Experiment I.—I took seven flower-pots, filled them with mould and sprinkled cress seed upon the surface. In one of the pots there was buried up to its shoulder a small vial containing alcohol, and a tumbler was inverted and placed over the open mouth of the vial, and the cress-strewn earth round it, in order to retain the vapour of the alcohol so that it might influence the cress. Pot 2 was watered once every day with water containing 10 per cent. of rectified spirit of wine; pot 3 with water and 5 per cent.; pot 4 with water and $2\frac{1}{2}$ per cent.; pot 5 with water and 1 per cent.; pot 6 with water and $\frac{1}{2}$ per cent.; pot 7 with pure water only. I was much surprised to find that even one-half per cent. of alcohol thus applied exerted a distinctly detrimental influence on the growth of the cress. This was more evident in pot 5 with 1 per cent.: still more with $2\frac{1}{2}$ per cent.: in pot 3 with 5 per cent. the cress just began to germinate, and was then arrested and finally killed: 10 per cent. of alcohol killed the seed quickly and effectually, only one or two seeds, possibly more vigorous or less touched by the alcohol, making a feeble attempt to germinate. The vapour of alcohol narcotised the seed in the same way that M. Bernard found that ether did, and finally killed it without permitting germination, and the influence was so strong that seeds on the surface of the earth, but outside the glass, were very much affected and also killed.

This experiment satisfied me that in alcohol we have an anæsthetic or narcotic poison capable of hindering the normal growth of cells, and this could only be by its action on their living protoplasm.

It was desirable, however, to see what limit there might be to this influence. For this purpose I performed the following experiment:—

Experiment II.—I took similar pots of mould and cress seed thereon; then watered them, one with pure water and the others with absolute alcohol and water of the strength of 1 per cent.,

$\frac{1}{2}$ per cent., $\frac{1}{4}$ per cent., $\frac{1}{8}$ per cent. respectively, and put a tumbler over each pot. Since the tumblers prevented the evaporation of the water, it was not necessary to add any more. But the evaporation of the alcohol was also prevented, and I was surprised to find that now, since the influence of the alcohol was no longer intermittent, but constant, the $\frac{1}{2}$ per cent. affected the cress seed as much as 5 per cent. had affected it before, and that even $\frac{1}{8}$ per cent. was decidedly injurious.

It was evidently necessary to test it further.

Experiment III.—I prepared six bottles, at the bottom of which I placed a measured quantity of dry powdered mould, and on this sprinkled an equal measure of seed in each bottle. Equal quantities of water in one bottle, and water and absolute alcohol in the other five were then added, just enough to moisten the earth thoroughly, and the bottles were then securely corked. The strengths of the alcoholic solutions were .2 per cent. (1-5th), .1 per cent., .05 per cent., and .025 per cent. In the latter case, therefore, there was one drop of alcohol in 4,000 drops of water, nearly half a pint. In a few days these had sufficiently grown to prove that even the last infinitesimal amount of alcohol (there was present not more than 1-20th of a drop) was detrimental to life and growth.

I have since ascertained that even smaller quantities have a perceptibly injurious influence, but it takes a longer time to show the difference. Thus even .005 per cent., 1 part in 20,000, 1 drop in a quart of water, is still active. But the greatest care is necessary in mixing these high dilutions, and in avoiding evaporation and other fallacies, so that I would lay less stress upon them.

It is enough for me to have demonstrated the following facts:—

1. That infinitesimal quantities of alcohol affect living protoplasm.
2. That the effect is directly proportional to the amount of alcohol present.
3. That its influence is never to stimulate life and growth, but always to hinder and depress it.

I may now describe the way in which the cress is affected. I have previously stated that the growth of the cress is hindered. This is very perceptible after the lapse of a few days, provided the experiment is properly conducted. It is evident that cell-growth and the activity of protoplasm are diminished. But there is yet another more evident effect. The production of the green colouring matter (chlorophyll) is opposed, and it may be altogether prevented by a sufficient quantity of alcohol, not enough to prevent all germination. The granules of chlorophyll are produced by the protoplasm in most of the cells, and it is by means of this green colouring matter that the great function of plants is

performed, namely, that of decomposing carbonic acid and exhaling oxygen under the influence of light, during which action starch is produced in each cell. This vital function is arrested or retarded by alcohol in proportion to its concentration. And the action of the alcohol is *persistent*. It continues to exert the same injurious influence so long as it is unable to escape. It is clear that there is no removal of the alcohol by decomposition, or if it be decomposed that the products are equally injurious. Those products (if any) cannot be carbonic acid and water, as these would be beneficial rather than injurious.

It is probable that the influence of alcohol is more powerful upon young and growing cells than on older and more vigorous cells, but its tendency to hinder and oppose growth must be the same in each case, though in the latter, perhaps, better resisted. The well-known stunting influence of gin on young puppies is an illustration of the same action on animal life. There is good reason, therefore, why all alcoholic liquors should be forbidden to children, as their chemical influences are clearly detrimental to the production of sound and healthy tissues. But it must not be forgotten that all our life long the same process of cell growth is taking place throughout the body, and the cells which are born and grow under the influence of alcohol will not be normal cells. One might compare the difference between cells and tissues produced during alcoholic and non-alcoholic periods to the rings in wood seen on cutting down a tree, which indicate the greater and less activity of growth in summer and in winter. So these alcoholised cells and tissues will be of somewhat injured material and lower vitality, and therefore more prone to disease and decay, and less able to resist injurious influences. Hence the greater sickness and mortality of alcohol-drinkers, other things being equal.

Alcohol is capable of injuring cress seed in quantities which are beyond the power of any known chemical test to discover. The test with potassic bichromate and sulphuric acid will give a very slight reaction with .05 per cent. (1 in 2,000), and perhaps with .025 per cent. (1 in 4,000) of alcohol, but as I have said even .005 per cent. (1 in 20,000) exerts an influence on the seed, and .01 per cent. (1 in 10,000) very clearly does so.

This experiment seems to me to be decisive on the question whether alcohol in small quantities is a stimulant or a narcotic. Its effect is the same from first to last, and that effect is diminished irritability of cells and lowered vitality. The most delicate and sensitive cells are first affected, and hence the higher functions of the mind are interfered with through the diminished irritability of the nerve-cells appropriated to them. One result of this is that the control of the higher centres over lower is diminished,

and these, thus set free, seem to have received an increase of power.

It may also be well to point out that the estimated amount of blood in any healthy person is about one-thirteenth of the weight of the body, so that a person weighing nine stones would possess about ten pounds of blood. Hence, if an ounce of alcohol mixes with the blood it is present to the extent of about half per cent., and in the liver and portal system to a still larger extent. This amount exerts a most powerful influence on cells with which it comes in contact; and a far smaller quantity is not inert.

I do not bring these facts forward to prove the injury done by alcohol to health and life; observation and experience abundantly declare this; but I think that they in some measure explain it, and confirm our opinion that small quantities of alcohol are by no means harmless or inert; that they never confer strength but deaden sensibility, and that total abstinence is wisest, safest and best.



Proceedings of the British Medical Temperance Association.



THE LAST QUARTERLY MEETING.

THE quarterly meeting of the Association was held on Thursday afternoon, November 13, at the rooms of the Medical Society of London, Chandos Street, Cavendish Square, the President, Dr. B. W. Richardson, F.R.S., in the chair. There was a large attendance.

PRELIMINARY BUSINESS.

The business was commenced by Dr. J. JAMES RIDGE, the hon. secretary, reading the names of new members. He also read a copy of a resolution passed at the forty-fifth annual conference of the British Temperance League, held at Huddersfield in July:—"That this conference draws attention to what it cannot but consider as the degrading and mis-

chievous custom on the part of members of the medical profession of giving testimonials in favour of wines and spirits sold by particular firms—a custom as full of pernicious influences on society as it is most surely derogatory to the standing and character of the members of a learned and philanthropic profession; and the conference hopes that the executive will take every opportunity which may offer itself to them, not only to protest against this custom, but of putting before individual members of the profession the feelings here expressed by the conference." Dr. Ridge also read the following resolution passed by the United Temperance Association at its sixth annual session held last September in Edinburgh:—"Resolved that

this Association hails with pleasure the formation and success of the 'British Medical Temperance Association' as an organisation calculated to aid in the enlightenment of the public mind, to give intelligent and rational expression to the great facts which underlie the temperance movement, and to exhibit the great truths which must inevitably give an impetus to our work. We also desire to express our thanks to Dr. B. W. Richardson for his address from the chair of that Association at its late annual meeting, and to wish him God-speed in his courageous and persistent efforts on the platform and through the press to advance the cause of temperance by the results of a scientific investigation and the evidence of scientific facts."

These resolutions were ordered to be placed on the minutes.

ON THE ART OF PRESCRIBING ALCOHOL
AS A MEDICINE, AND ON METHYLAL
AS A SUBSTITUTE.

The President, Dr. RICHARDSON, F.R.S., said:—

We number now in this Society between two and three hundred members, all of us abstainers from alcoholic drinks as beverages. We are none of us under any obligation in respect to the employment of alcohol as a medicine. Alcohol is to us a chemical of the hydrocarbon series, which we have as much right to use as any other substance of a chemical nature. Our business with alcohol, as practitioners, is connected with the art of learning what it is worth as a medicine, and with the best means of administering it when we think it is required. We are often misunderstood in this matter. Because we oppose altogether the employment of this chemical for a beverage, as we should the use of chloroform if that were made a beverage, we are said to be opposed to its employment as a medicine, against the opinions of the majority of our fellow-practitioners, and against our own better judgments if we would use them. In this way the purpose is served of making us appear fanatical or bigoted, which may be pleasing to our adversaries, but is

certainly very unjust to ourselves. I have had recently to go entirely out of my usual course of not replying to criticism, in order to correct a statement, publicly made and widely circulated, that I would not administer alcohol in a class of cases of disease in which some of my most distinguished contemporaries would administer it, and as they believe with benefit to the sick; and any of you may be any day driven to the same kind of vindication from the errors of prejudice.

I wish from this chair still more publicly to rebut the charge that is thus made against us. We may have different estimates as to the real value of alcohol in disease; we may feel that it is a very easy thing indeed to replace alcohol by other and, for ought I know, better substitutes, in the cases in which it is assumed to be of most service; but certainly we are none of us so purblind and obstinate as to oppose any facts or practices which are proved to be useful even when the use of that form of alcohol called ethylic is under consideration. I repeat that I sometimes prescribe alcohol as a medicine, as I would prescribe opium, quinine, prussic acid, or calomel. In this sense I have no feeling against it at all, and I do not believe any one of my abstaining colleagues has the slightest feeling apart from what is right. On this I am asked, In what cases do you prescribe alcohol, and how precisely do you prescribe it; in what form—in what doses? Every week brings me three or four inquiries on these points, and I fear that from sheer want of time I have been rather remiss in answering them. Let me, then, in a few words, answer some of them here.

Both from physiological and practical experience there seems to me to be one particular condition of body in which alcohol and the analogous class of chemical bodies may be administered with prospect of success. That condition is when the balance between the systolic stroke of the heart and the resistance of the arteries is so disturbed that the contraction of the ventricle is not fully competent to meet the arterial resistance. This disturbance

of balance may be met with in different states and from different causes.

It may be present from feebleness of the muscular wall of the ventricle. This is sometimes the case in chronic muscular degeneration, when that has progressed, while yet the organic muscular fibre of the arteries remains intact, as in cases of degeneration of the heart occurring in the middle-aged. It may be present during acute disease, where the heart has been working at extra speed for many days or weeks, and has not been sustained in its work by proper reception of food. This is the case in prolonged febrile states. It may be present, again, in cases of nervous failure of the heart, as in some forms of intermittent action from failure of organic nervous power, or from excitement of the pneumogastric, in which, while the arterial and minute arterial resistance remains the same, the central pressure or propulsion is uncertain. Once more,—it may be present in cases in which the arterial resistance is increased, so that the full ventricular stroke of the heart is insufficient to overcome the resistance. This is singularly the case in instances of shock from blow or stun; but the same condition is present, I believe, in many other instances from other causes, which excite the organic nervous centres. The paleness of surface that occurs from sudden exposure to cold, from fear, from anger—white rage—is of this kind, as is also the pallor from sudden violent exertion and excitement, as in running to catch a train.

In every one of these examples of disturbed balance of the circulation the action of alcohol is to relax the peripheral circulation, and so to relieve the heart. The alcohol does not stimulate the heart but sets it at liberty. If a horse be struggling to drag a loaded cart and fails, not because the load is too heavy, but because an undue friction of the axles of the vehicle makes the revolution of the wheels difficult, and if the carter lubricates the axles and the horse goes on easily, it might look to a person who did not see the whole process as if the horse had been stimulated by punishment

to a greater effort. The mistake would not be greater than to suppose that alcohol in the cases named above stimulates the heart. It removes resistance, which is far better since this removal if resistance extends to the nutrition of the heart itself in its own independent circulation.

These, then, are a class of cases in which I should admit, on emergency, the administration of alcohol. There is here good sound reason for its use, as sound reason as there may be for the administration of chloroform or methylene, or ether, to remove pain in the presence of a surgical operation. I should admit the practice also in cases of tetanus, angina pectoris, some forms of bronchial spasm, and colic: in five words, that is to say, I should admit *the anti-spasmodic value of alcohol* in disease.

I meet sometimes with another class of cases in which, with many of what are commonly called nervous symptoms, there is a marked over-action of the heart with a thin, and, what seems to be, a feeble pulse. In these cases the hands and feet are often very cold, and the surface of the body is very pale—the face being especially pale. We sometimes say of persons so affected that they are anæmic, and we treat them ineffectually for anæmia. They are, in fact, examples of a condition in which the arterial resistance is extreme throughout all the course of the arterial current. The whole of the organic muscular fibre is in a state of over contractile resistance. The bowels also are constipated, there is much dyspepsia, and, in both sexes, there are periods of marked or partial hysteria. The subjects of these symptoms suffer under excitement, from attacks of palpitation of the heart, and sometimes from epigastric palpitation of a severe character. These cases are of a kind that are much benefited by anti-spasmodics, and are always for a time relieved by alcohol. They furnish a considerable part of those persons who say that if they do not take wine they “run down,” with other terms equally meaningless and affected. It is true that alcohol, by relaxing the vessels of these persons,

allows a quicker current of blood to flow through the vessels, by which, for a time, the patients feel warmer, and during which they experience for a time a more active nutrition. Unfortunately these are, of all persons, the last to be entrusted with the use of alcohol in the ready form of wine or spirit. They learn to indulge, by magic, and, as a rule, in a very short time, they so increase in the love of their remedy as to fall victims to its seductive relief. They are soon transformed from pale nervous people, either into pale obesities, or into obesities with exceeding redness of countenance, and with so much craving for more of the alcoholic drink, that organic changes from it are all but certain phenomena.

It is right that we, as abstaining practitioners should recognise these practical difficulties and be prepared to meet them.

How shall we meet them?

We must meet them medicinally, and in one of two ways.

(a) Either by the scientific administration of alcohol as a medicine—

(b) Or by the administration of substitutes for alcohol.

In carrying out the first of these intentions I, for my part, practise a method I would now describe.

In the first place, in using alcohol, I always prescribe the drug itself. To prescribe it as wine or spirit is simply absurd. To say that wines and spirits have any specific values of their own is to impose on oneself as well as those who are under our care, while we have no standard of strength by which to order such drinks, and no true dose by which to prescribe them. In my usual practice I follow the annexed rules.

1. The alcohol I order is always pure ethylic, of sp. g. .830, and I write the specific gravity on the prescription. Alcohol of .830 is not absolute alcohol, the absolute having a sp. gr. of .795, but every chemist has it, the little excess of water in it is of no moment; it is of moderate price, and it is a standard product.

2. The dose of (.830) alcohol which I order for adults varies from four

fluid drachms to eight. In persons unaccustomed to alcohol, the smaller dose is sufficient. In either case I dilute with water freely -- half an ounce of alcohol to three ounces of water. Dilution quickens action. To each dose I usually add one fluid drachm of pure glycerine. In cases of fever, instead of simple water as the diluent I often use half water and half infusion of cinchona bark; and indeed in a large number of cases I order the infusion of red or yellow cinchona bark, or of cascarilla.

3. The doses are prescribed to produce a specific effect for a definite purpose and nothing more. The object aimed at is to cause a more ready flow of blood over the vascular surfaces, and to relieve the heart of undue pressure.

4. In many spasmodic cases I combine the alcohol with other active anti-spasmodics. The following is a good combination, for asthma and angina:—

Alcohol, .830 $\frac{3}{4}$ ss.

Nitrite of amyl, m. ij.

Pure glycerine, $\frac{3}{4}$ i.

Infusion of valerian, $\frac{3}{4}$ ss.

To make one dose, to be taken in three ounces of water.

In cases of chronic intermittent pulse I usually order the alcohol, when it is required, in combination with iron. The following is a very useful, convenient, and elegant form:—

Sulphate of iron, gr. xxx.

Carbonate of potassa, gr. xxv.

Distilled water, $\frac{3}{4}$ ij.

Mix, and when the decomposition into the green iron carbonate is complete add—

Glycerine, pure, $\frac{3}{4}$ i. ss.

Aromatic spirit of ammonia, $\frac{3}{4}$ ss.

Alcohol, .830 $\frac{3}{4}$ ij.

Mix. To make an eight-ounce mixture, one ounce for a dose, in three ounces of water.

To this I add, in some instances, as may be required, a dose of infusion or tincture of digitalis, or, if there be great sleeplessness, a dose of morphia or codeia.

I might extend these illustrations, but I intend them for indications of method rather than of detail. On

one point only would I further insist, and that earnestly. In all cases where alcohol is prescribed the necessity of watching closely its effects is even a greater necessity than the act of prescribing it. Take cases of fever, for instance, in which at the latter part of the case the deficient systolic stroke would seem to indicate that alcohol is called for. In that case alcohol to be administered safely should be pure in the extremest degree; the dose should rarely exceed half-an-ounce, and the repetition even of that dose should be watched with the most jealous care. To give a large dose of alcohol in these cases, or to give a dose of the mixtures that are called wines and spirits, is just as rude and vulgar an act as it would be to go into an old-fashioned disorderly drug shop and take out at hazard a dose of tincture of digitalis, or belladonna, or aconite, without asking in what year the tincture was made, or from what pharmacopœia it was adopted. The effect of such treatment is too often to relieve the heart, and to produce, in return, cerebral congestion and coma: conditions as fatal as the reactive fever of cholera is fatal after the flux has ceased.

Of this I once had an experience of a very painful kind. I was called to see a gentleman, at some distance from my house, who was suffering from a chronic disease, and was deeply depressed, owing to the recent death of his son. Finding no one in regular medical attendance on this gentleman I recommended him, as is my custom, to call in a neighbouring practitioner, and I named one for whose sound judgment I have such confidence that if I were ill there is no man to whom I would more fully entrust myself. To my painful surprise, the patient instantly offered the most intense objection. "That man, sir! why he was the cause of the death of my boy." How so? And then he told me that his boy had suffered from typhoid; that the gentleman I had mentioned attended, and for three weeks gave food freely but forbade wine: that at last, when the boy was very feeble, another practitioner was called in who ordered a

bottle of old port to be commenced at once: that the first glass of the wine seemed to give new life to the youth, but that after a few glasses, administered over an interval of three to four hours, he became stupid, wandered, went to sleep, breathed with a noise, and never woke again. "The wine," said the disconsolate parent, "would have saved the lad if it had not been given too late." And so he persisted in believing until his own death.

What a lesson this is I need not tell. Here was a youth tossed over from death by asthenia into death by coma, made, in short, in his weak state, actually drunk by wine. What was that old port made of? How much alcohol in each three-ounce glass dose did the boy swallow? Who was most at fault, the practitioner who gave good nourishment without wine, or he who gave alcohol in that unscientific blended nostrum of "old port"? A half-dozen things probably mixed in utter ignorance of their nature, and containing an unknown quantity and quality of the agent that was to do the saving work?

I touch next on medicinal substitutes for alcohol. We open here on a new field of research suggested by the effort to avoid the use of an agent, even in medicine, that is provocative of so much evil to mankind as this alcohol.

There are many medicinal substances which replace alcohol, notably ethylic ether, nitrite of amyl and ammonia. The objection to ether is that it is too volatile and not sufficiently soluble in the blood. Its effects are too uncertain, varying with every temperature, and too evanescent. Nitrite of amyl is too active to be used on a large scale, and it also is too insoluble and evanescent in action. Ammonia is too caustic to the taste, too evanescent, and too determinate in its solvent effect on the blood.

That which we require as a medicinal substitute for alcohol is a fluid which, having the same physical properties in respect to solubility, shall be rather more volatile and shall produce the physiological action of alcohol in

respect to the reduction of arterial resistance.

Such an agent I have found in the substance known as *Methylal*, of which I place a specimen before the Society. I first introduced methylal as an anæsthetic in the year 1858, at the Norwich Meeting of the British Association. The composition of methylal is $C_3H_8O_2$. Its specific gravity is 0.835. Its vapour density is 38. It is made by distilling methylic alcohol and sulphuric acid with peroxide of manganese. It boils at $108^{\circ}F$. It has an ethereal odour, and it should be of neutral reaction. It is agreeable to inhale, and is a fine anæsthetic, but its anæsthetic action is slow. It dissolves in water, and an aqueous solution containing ten per cent. of it is agreeable.

In its action on the circulation and the pulse, methylal plays the same rôle as alcohol, but the dose of it that is required is much smaller. One fluid drachm is equal to four of alcohol. I hope soon to have it made on a large scale ready for the prescriber's use, and at our next meeting I will, with your kind permission give a further report upon it.

In reply to several questions the President explained that the effect of a full dose of methylal lasted a considerable time—from three to four hours. It seemed to leave no serious effect behind, and his present opinion was that it would supplant alcohol in many cases where it was thought desirable to give a stimulant, as in cases of faintness and exhaustion from fever. Another advantage was that it could be given by inhalation. The only objection he had found to it was that it quickly became acid—a change he did not as yet understand the nature of. He would report further at the next meeting on the action of methylal in cases of disease. The dose was twenty minims, increasing up to a drachm. It did not depress the patient afterwards, though it produced a certain confusion in the brain. The pulse reading caused by it was the same as it would have been from alcohol. It was made for him by a

well-known chemical firm, and could soon be easily obtained. As to the question whether it would be useful to give it in cases of delirium tremens, he had not made up his mind yet, because instead of cutting off the stimulants gradually, he thought it was far better to cut them off at once.

ALCOHOL AND VEGETABLE LIFE.

Dr. RIDGE exhibited some specimens which showed the deleterious influence of minute doses of alcohol on vegetable cell life. The CHAIRMAN said the experiments were most interesting, quite apart from the alcohol, and he hoped they would be continued.

A vote of thanks was passed to Dr. Ridge.

Dr. ALFRED CARPENTER, J. P., Chairman of the Council of the British Medical Association, then read the following paper on

THE DAILY USE OF STRONG DRINK.

The arguments which were used by Sir James Paget in his paper in the *Contemporary Review* on "The Contrast of Temperance with Abstinence" have made many waver in their allegiance to "total abstinence," and require careful consideration. Not because the arguments are sound, but in consequence of the high position which Sir James deservedly holds among men of science, and in the profession to which he belongs. This result naturally follows, from a custom common among all people; it has belonged to all ages, and, according to Sir James's logic, is enough to prove that a prevalent opinion is not a bad one. Men, and not measures is a correct reading of the political views of this class of people. Because "the beliefs of reasonable people" are at present favourable to moderation rather "than to abstinence." The subject being one regarding "which few reasonable people have made any careful observation, and fewer still have thought with any care. The continuance of the custom amid the constant love of change is enough to prove that the evidence of the custom being a bad one is not

clear." This argument, to be sound, must apply to all time and to all places. But is not its unsoundness manifest when applied to beliefs in general? How completely it seemed to demolish Copernicus, how satisfactory it was to the antagonists of Galileo! It is an argument which has had an immense influence in mundane affairs, but "*Vox populi, vox Dei*," is strange reasoning on the part of men of science, and is unsound as a basis to start with.

Sir James's opinions upon the evils of intemperance are satisfactory enough; but when he states that the habitual moderate use of alcoholic drinks is generally beneficial he must submit some other and sounder arguments than those which arise from the fact that at present a popular vote would produce a majority in their favour.

The statistical point is quoted in support of the author's view, or rather the absence of statistics is used. There are no statistics which show the influence of moderation as compared with abstinence, for obvious reasons. The definition of abstinence is easily made, but if we look for a definition of moderation we find none. Sir James Paget leaves the point without any other remark than that it is impossible to define it. How then is it possible to have any statistical information, and how is it possible for reasonable people to determine on statistical grounds "that the moderate use of alcoholic drinks is generally beneficial"? If Sir James had them he believes that they would tell in favour of his view, but it is impossible to get a basis to start with. To one man moderation means a bottle of wine every day; to another it is three or four pints of stout; to a third three or four glasses of brandy and water; and to the hundred thousand persons who have been convicted of drunkenness in public, in the metropolitan police-courts during the last three or four years, it means anything short of intoxication. Moderation must be defined before we can obtain any statistical facts regarding it, and when it

is defined we must have something more than the *ipse dixit* of the witness; because if there is one thing more than another upon which people are generally accustomed to prevaricate it is about the quantity of stimulants they habitually take.

There is a witness in favour of abstinence which is very strong, and which all opponents to total abstinence try to explain away. We may take for granted that the class of persons who supply our prison population are, when loose in society, among the most unhealthy of our able-bodied classes; yet as soon as they enter the prison walls they belong to the healthiest of all Her Majesty's subjects. But Sir James does not think that enforced abstinence has anything to do with this effect. He desires to put the results of prison discipline out of the calculation as not bearing upon the subject, and he would assert that the distribution of daily doses of alcoholic drinks to the prisoners would make them stronger and healthier still. For this exclusion I contend that there are no good grounds. There are institutions in the country in which work is compulsory but in which total abstinence is not; in which every arrangement is provided to maintain the good health of the inmates, except those which may arise in consequence of the habitual use of intoxicating liquors. Sir James, no doubt, would exclude these also from consideration upon similar grounds, for he says the observations which apply to prisons apply with equal force to workhouses; perhaps he would also add barracks and lunatic asylums, but these and other similar institutions cannot vie with prisons in point of health. We may be certain, however, that unless it were possible to define moderation, and to compel those experimented on to abide by the definition, no strictly logical sequence can be produced. Sir James declines the first and the second would be unobtainable. We must not lose sight of the fact that abstinence enables the authorities to carry out their regulations in prison life with a certainty which would be

impossible if alcoholic drinks were allowed. However our opponents may try to explain away the evidence afforded by prisons in favour of abstinence, it must still be regarded as satisfactory and very much to the point.

The deductions from physiological observation do not find much favour, apparently from similar reasons they are quite antagonistic to our author's views. He only regards them as "reasonable suggestions to be practically tested by experience." I ask by whom is the experience to be afforded? If I, personally take three or four glasses of wine to-day I shall find that I am not equal to my usual amount of work to-morrow. That is also the universal experience of the total abstainer; whilst the habitual user of alcoholic drinks does not feel quite so up to the work of to-day if he has not had his usual dose. Is my natural state to be ignored, as not to the point, and the habitual user's unnatural state to be taken as sound evidence in favour of the custom, because it is the *vox populi*? Is the opinion and the experience of the man inured to alcohol to be taken before that of him who does not use it? Submit this view to the test of analogy. Go into an aguish district; ask the acclimatised inhabitant of the country and he will tell you that to him it is moderately healthy. Just as large numbers of the inhabitants of any unhealthy set of dwellings will assert that they are the healthiest set of places in the kingdom, and instance So-and-so who lived there until he was ninety. Is this evidence to be taken as superior to that of the unacclimatised individual who sees so many cut off before his face by the evils which are incidental to the district? The evidence of the user of alcohol cannot be accepted as satisfactory in a physiological point of view. It would not be fair to put out of sight the millions who have succumbed to the deadly influence of intoxicating liquors so that we may draw an inference in favour of moderation. We might on just as reasonable grounds declare Sierra Leone a healthy place because

some did not suffer from its effects, or a battlefield a safe place to saunter in because some escaped unscathed from its dangers. Sir James Paget says, "If the shortened lives and damaged healths, the carelessness and bad work of drunkards, and the miseries entailed upon their children could be excluded from the reckoning, the evidence in favour of alcohol would be much strengthened." No doubt of it. If all the dead and wounded men could be taken away, and not counted among the casualties of the campaign, fighting might be considered as a safe occupation. And if we only take account of the healthy people who live on the Gold Coast, and take no thought of the diseased and dead men, some might justify their conscience in recommending their friends to go and live there for the benefit of their health. The one contingency is just as reasonable as the other.

It is not controverted that as a rule alcoholic drinks are not necessities of life. Millions of people never touch them, and some of the most intellectual men of the day are total abstainers. If a community be deprived of those things which are necessities, such as water, starch, sugar, fat, or vegetables, nature rebels and health suffers, but alcohol may be altogether omitted for any length of time without injury. Notwithstanding this fact many consider the taste for alcoholic drinks to be a natural one, and as normal as the taste for wheaten bread, potatoes or cultivated fruits. "They may be used," says Sir James Paget, "by some persons in a mischievous excess, but so may bread and cheese."

But is it not an objection to this view that nature has put a bar to mischief in the one case which is not present in the other? No one can take an unlimited supply of those things day after day beyond the wants of his system without nature rebelling. "The more you have the more you want" finds no analogy as regards bread and cheese; and if the desire for alcohol is to be taken as a proof of a natural instinct, how much more upon the same reasoning must the

craving for drink, which belongs to the intemperate classes, be taken as a proof of a naturalness of intoxication.

Custom cannot be a sound argument in favour of the habitual use of alcohol any more than it would be in favour of any vicious practice. Lewd songs and indecorous dances have existed in all ages and among all people. Yet their continuance cannot be urged as a reason in their favour. To consider that custom is satisfactory as a proof of usefulness is unsound.

Our opponents venture to class alcoholic drinks with tea, coffee, and tobacco. There are strong differences between the two former at any rate, but why exclude opium? It is largely consumed in some countries in the place of alcohol, and even in some districts in our own land. The arguments which are used in favour of the daily use of alcoholic drinks may be equally used in favour of opium as an article of daily consumption. It may be argued of opium, as of alcohol, "that its use is beneficially adjusted to some of the conditions of our life," and enables the user to bear his burthens with greater equanimity. But would it not be better to remove the burthen than continue to bear it and be obliged to take a remedy which blunts the intellect and deprives a man of all those finer qualities which are his glory and the basis of his genius and his power?

I next join issue upon the question of human progress. According to our antagonists, civilisation has made advancement *pari passu* with the habitual use of alcoholic drinks. They adopt a very unusual course, and put effect for cause. They consider that a portion, at any rate, of human progress is due to the custom of imbibing alcohol. It is said that "it may be due to many other things, but in trying to account for it, the influence of alcohol must not be excluded or counted for evil." This is different to that reasoning which was used when explaining away the healthiness of prisoners. The absence of alcohol had nothing to do, in our author's view, with the one result,

whilst its use had something to do with the other. The evidence afforded by history, both ancient and modern, appears to be ignored. I always thought that the habitual use of alcohol had followed in the footsteps of civilisation; that it had often led to the downfall, and not the uprising of states.

Civilisation has brought wealth, wealth has led to luxurious living, including the daily use of alcohol. It led to Belshazzar's fall, and scattered Alexander's empire to the winds. The progress of power from east to west is due rather to indulgence in alcohol. Mohammedanism came too late to check it. As soon as the ruling powers in any land gave way to luxurious habits they lost their power to rule, and it passed from them to others less intemperate. History is full of instances which prove the truth of this proposition, and in modern times we have only to ask the American Indian concerning the civilising power of fire-water to get a conclusive denial of the truth of this theory. Had the proverb "Drunk as a lord" continued to be true in fact, we may be quite sure that the "House of Lords" would at this time have been a thing of the past in Great Britain.

This brings me to another weak point in the argument—the evidence which is adduced in favour of moderation, and which is founded on hereditary tendencies. It is said of our ancestors "that they drank hideously hard." Our author thinks that we may safely estimate that every man had at a certain distance backwards many more than half-a-million ancestors, and what hereditary tendency a man may have it must show itself before the twenty-first generation is reached; that there must have been many drunkards among that half-million of ancestors, and many more who were moderate drinkers, and that the fact of healthy children being born at all is proof that moderation is beneficial. Are all these points true? How do we know that our actual ancestors "drank hideously hard"? It is quite certain that the common people of the land did not, because they had not the means. The habitual daily use of

stimulants was unknown among the lower classes in this land five hundred years ago. It is true they did get them at times by the favour of some great noble, and some among them got drunk, but that was on high days alone. Those who "drank hideously hard" have, with their descendants, disappeared from the face of the earth. If we consult the history of the House of Lords it will be seen that if not constantly recruited from other sources it would become defunct by lapse of time. The lap of luxury may be consonant with length of days in the case of individuals, but there is nothing like the produce of descendants as obtains to the country clergyman of narrow means, and the poor but temperate working men. The peer seldom has a large family, and in the course of a few generations the succeeding peer is childless or dies in early life, and the title becomes extinct. There is a survival of the fittest as far as health is concerned, and diseased states put a stop to production long before the twentieth generation is reached. It has been omitted to take into account the producing power of a single pair, or to note the absurdity of supposing that any one among us can by any possibility have had origin from half a million separate and distinct ancestors. Young men who get drunk, seldom, fortunately, have families at all, and in the majority of instances the drinker contracts his habit after he has become the father of a family, and when his habit, or disease induced by it, cannot be inherited by his child.

There is also another point which our antagonists have altogether ignored, viz., the power which exists in the constitution to throw off hereditary tendencies; the power which exists to throw out that which is unhealthy because it is unnatural. Traits of disposition, character, form, and colour, may be continuously propagated, because they are natural. But disease is not so perpetuated; it either tends to blot the family, or to its own removal from the system. "The sins of the father shall be visited upon the children until the third and fourth

generation" only. I believe that the continuance of a tendency to disease through twenty generations is an impossibility in nature.

Sir James Paget passes on to liken the use of alcoholic drinks to that of quinine or arsenic, and from a logical sequence he draws an illogical conclusion. It is true that if a large quantity of alcohol is mischievous it does not necessarily follow that a smaller quantity is also so. Quinine and arsenic are undoubtedly beneficial in small doses at certain times and in certain cases; and so is alcohol. The error of the conclusion is shown if we propose to give daily doses of quinine or arsenic to a man in health. Let him take small doses of those valuable remedies long enough, and evil will arise sooner or later. If this is the case with arsenic, why should it not be so with alcohol, and why should we recommend healthy men to do that in the one case which is undoubtedly mischievous in the other? I contend that the daily use of strong drink as ordinarily indulged in must be hurtful in the long run, and ought not to be encouraged, especially with young and able-bodied people. I also hold that it is impossible to separate the moderate daily use from its natural concomitant. To do so is to shut our eyes to a danger which is likely to affect us as the most civilised as well as at present the most favoured race upon the face of the earth.

ALCOHOL IN FEVER.

Dr. VACHER, of Birkenhead, read a paper on "Some Substitutes for Alcohol in the Treatment of Fevers," which is given entire in our present issue at page 55.

DISCUSSION.

The cordial thanks of the Society having been passed to the readers of both papers,

Dr. DRYSDALE opened the discussion by describing Dr. Carpenter's paper as admirably instructive and interesting. He (Dr. Drysdale), in reading Sir James Paget's paper in the *Contemporary Review*, felt very much the same as did Dr. Carpenter

—that it contained a great number of fallacies. The most glaring of these was *Vox populi vox Dei*. There were fallacies in every country, and when Sir James Paget assumed that because the English people drank it must therefore be a highly civilised thing to drink, he appealed at once to a very large number of people. It was a very difficult thing to answer a fallacy when the uneducated masses were appealed to. Sir J. Paget might say because every one seemed to smoke, therefore it was right and beneficial to smoke. They would have no power to argue anything from a scientific basis if they were to listen to such argument. They must all see that alcohol was a “non-natural” of nutrition. If any of them took a glass of wine or spirits, it immediately affected the brain, but that was not the case when they took food. Hence they saw that alcohol was not a “natural” of nutrition. Sir James Paget might just as well have advocated the use of opium, tobacco, or ether on the same grounds, because these things happened to be consumed by large numbers. Possibly in China some practitioner might be found who would affirm that the greatness of China was due to opium! As to Dr. Kerr’s statistics of the mortality due to drink—he thought they were exaggerated, but there was no doubt that alcohol was one of the most common causes of death. In Paris Dr. Lancereaux found upon examination that 1-20th of the deaths in the hospitals were caused by alcohol. It was perfectly clear that an article which was not one of the articles of nutrition, and caused 1-20th of the deaths in the hospitals in Paris, must not be a thing that could be conducive to human well-being each day of one’s life.

Dr. KERR was of opinion that the paper read by Dr. Carpenter had completely demolished Sir James Paget’s objections, and had proved that his arguments had no foundation in fact. At the same time he was perfectly certain that Sir James wrote his paper in all honesty and candour, but he had not studied the question. He was sure,

however, that the Society hailed this expression of opinion on the side of moderate drinking, and valued it as much as they did their own freedom of opinion against it. He agreed with nearly all that was said in Dr. Vacher’s paper. Like him he preferred to use alcohol in a scientific manner, in a known quantity, such as any spirit of chloroform, and in the tincture he had mentioned. He frequently gave in the cases described a grain of carbonate of ammonia, ten minims of spirit of chloroform, and an ounce of camphor water. At the same time he was not prepared to give up entirely the use of brandy and fermented wines in the treatment of fever. He had found there were a few exceptional cases which were of such a desperate character that he seemed shut up to alcohol. In convalescence he thought the best substance to give was zoedone, the new effervescing beverage. He had not seen any preparation of fermented or unfermented wine that seemed to have as much power in promoting convalescence as this new beverage. He also used unfermented wines, and had found them most valuable and useful. He knew of only three varieties at present, but hoped the choice would be larger by-and-by. If they did administer alcohol in fevers they ought not to continue its use beyond the time when they saw the slightest indication of drying of the tongue, and of the secretions in the mouth or “barked tongue.”

Dr. BAER presumed that membership in this society allowed them all to keep their individual opinion as to the prescription of alcohol. He hoped, in other words, that they were not expected to advance to the extreme view of the total abolition of alcohol.

Dr. FARQUHARSON pointed out that the character of fever epidemics differed, and that a line of treatment that might be very good with one class could not be pursued with advantage in another. What the profession really wanted was to have the non-alcoholic treatment shown on a large scale. Until they had this knowledge, the physicians, like himself, who were in the habit of giving alcohol would

hesitate to abandon what they had always found in their own practice of the greatest value. Alcohol was of enormous advantage in the acute affections of children. He had saved, he fully believed, a certain number of lives of children by giving alcohol to them in properly-regulated quantities, and he had not seen the comatose condition arise after alcohol. He had seen mischief arise from the administration of carbonate of ammonia, and therefore it was held not to be a very suitable remedy in cases of enteric fever, and camphor was very depressing in its action on the heart. He thought Dr. Carpenter had answered some of Sir James Paget's objections, but he could not go so far as a previous speaker and say he had demolished them all.

Dr. RIDGE, speaking in reference to what had fallen from Dr. Baer, said the society was quite free on the subject of the administration of alcohol in disease. This was simply an association of abstaining medical men. Dr. Carpenter had given Sir James Paget a striking *coup de grâce*. With respect to the administration of alcohol in fevers, he must confess he was in considerable doubt. During the last five or six years he had not administered any alcohol in fevers, and as far as he could see his success was as good as when he gave it. The only way to arrive at a correct conclusion was that to which the last speaker had alluded—one must see the effect in treating a large number of cases. At the London Temperance Hospital that very objection was anticipated, and, consequently, the tinctures were all made of glycerine and water, which extracted the virtues of nearly all the drugs generally prescribed as tinctures. He had had a considerable number of typhoid fever cases of great severity, and in those that had recovered he was convinced that if he had given a little alcohol he should have been prepared to believe that they had recovered in consequence of the alcohol. One thing he must say, and it was this, that he didn't see anything of the dry tongues that he used to observe when alcohol was given. Of

course, as Dr. Farquharson had remarked, epidemics varied.

Surgeon-Major FRANCIS, referring to the treatment of cholera, said that thirty years ago, when he went to India, he asked what was the best way of treating cholera; and the gentleman whom he questioned, who had had great experience, pointed to a bottle of brandy. Of late years anything in the shape of alcohol had been recognised as a thing not to be given. During a few years of his career there he was in medical charge of one of the largest hospitals in connection with the Medical College of Bengal. Some 600 cases came under his observation and treatment during about two years. They had a ward devoted to the reception of cholera cases, and the two physicians divided the cases. The one had one half of them and he had the other. His colleague treated his cases (he was speaking of thirteen to fourteen years ago) in the ordinary way, with astringents, stimulants, and so on, and he lost 50 to 56 per cent. He (the speaker) lived in the hospital and was able to nurse his patients, so something must be put down to that. He gave no brandy, only ether, ammonia, or camphor, and his mortality was 30 per cent. As this experience extended over about 600 cases, he might venture to hope that a portion of the happy result was due to the absence of alcohol.

The PRESIDENT: As I have been listening to the papers and to the debates, I have been filled with a great deal of anxiety on the diversity of opinion that prevails in the profession concerning the subject under discussion. If I were taken with fever, for instance, and was lying in a certain stage of it, there are no two of you who would agree as to whether I should or should not have alcohol, or under what circumstances. If I could extend my observation over the whole of the profession of medicine, that would, I fear, be also the fact. But suppose you did agree that at some particular stage I should take a certain measure of it, I do not think any of you could decide in your own

hearts whether if I died or got better the result was in consequence of the administration or not. Such is the uncertainty in which we all stand at this moment. Nothing would strike a judge so much as the contrariety of opinion expressed here. One would not give alcohol when the dry tongue appears—another would. One would give it feeling it might possibly have a certain specific sustaining purpose; another says, “I don’t think it would serve that purpose at all,” and that seems to be at this moment the great mark of diversity not only between the two classes of the profession (those who abstain and those who do not), but amongst members in both classes. We are at the bar of public opinion on this question. It is being put to us day by day—“What is right?”—and we do not ourselves know. It is a solemn question—one on which we ought to be decided, and one which in the future we must be prepared to meet. As far as I am concerned my position is this—we must, if we are going to settle it, *settle it* by an appeal to the *thing itself*. When Dr. Kerr says he will give brandy and wine, and another member says he will give whisky or gin, I want to know what these things are. I do not know. I have a full right to know. The compositions of things are as familiar to me as to anybody in this room, or perhaps in this country. They have passed through my hands in experiment, but I do not know what they are. I do not know where to send for any of these things that have a fixed quality. There are many ingredients in gin all differing in character, and so with the other fluids. They may contain things entirely different from alcohol. When my friend says he will use this wine or that, I reply, “I can’t agree with you there.” I don’t know what I am doing when these drinks are put before me. Five years ago I was so struck with the fact of the utter inconsistency of the nature of these liquors that I have never prescribed wine, brandy, whisky, gin, beer or anything that is called “spirituous liquor” since. I looked today over a record of 1,200 various

cases of disease which I have treated since that time, not including those I have seen without taking a note of them, and I find I have treated these all through the time perfectly well on a good sound scientific basis, as far as the knowledge of alcohol goes, without having had occasion to give a single drop of these liquids which are known as beverages. Instead, on the rare occasions when I have wanted it, I have prescribed alcohol itself, and nothing could be more certain or satisfactory. The plan has met every objection. Then comes another question, which I am prepared when we get sufficient data to go into—as to whether alcohol is good or bad. I do think there is a good use in alcohol when there is a failing heart. The alcohol has a specific relaxing action on the minute organic fibre, and then the heart works more readily, and there is a more free circulation. I can see there a physiological reason for giving alcohol. I do hope that out of this discussion we shall be led to go and try the real thing alcohol itself. Let us as a profession adhere to the principle of getting at the physiological and therapeutical action of this agent, and when we have found what it does or does not, keep to the facts that are revealed to us.

Dr. CARPENTER briefly replied to the criticisms which had been evoked by his paper, as did also Dr. VACHER, who observed that his were not epidemic cases, but cases received into a hospital for a period extending over three years.

The following letter was received by the Honorary Secretary from one of the provincial members of the Association:—

“Many thanks for your kind remembrance. I hope to see the day when there will be branches of the British Medical Temperance Association in all the large towns of the three kingdoms, and then country doctors will be able to attend the meetings. Assuredly they are needed, for the ‘drink’ has taken such a hold on the people, and no wonder. The dying mother’s lips are moistened with it,

the new-born infant's body is bathed with it, and its first sugar-and-water mixed with it for the 'wind,' and so on during the entire lifetime. I am 'speaking what I know, and testifying to what I have seen.' Doctors know the hold that drink takes on the system, even affecting the conscience,

so that the light on this subject becomes darkness. Rome was not built in a day, nor did its 'decline and fall' occur in a day, neither will the drink delusion fall for many a day to come, but the sapping and mining has commenced, your worthy president being the chief engineer."

BRANCH MEETING AT LIVERPOOL.

On Friday, 26th September, 1879, a meeting of members of the Association and medical friends in and around Liverpool was held in the theatre of the Medical Institute; Dr. W. Carter, one of the vice-presidents of the Association, presided, and forty-one medical men were present.

After tea and coffee had been served the members and visitors adjourned to the theatre, and Dr. Carter commenced the proceedings by reading the following paper on

ALCOHOL AS A MEDICINE.

Gentlemen,—In opening this conference I will call to your minds words which, in imitation of an older criticism on an older subject, have been spoken of total abstinence, viz., that it must be endowed with much inherent vitality or it never could have survived the injudicious advocacy of its friends, and at the same time I will express the hope that the opinions of all here, whether they agree with the principles of total abstinence or not, will be expressed with the moderation that becomes those who desire—as I feel convinced we all do—to follow temperance in all things. I thought it would be but right when I consented to preside here this evening that I should state clearly my own opinions with regard to the employment of alcohol, opinions which I have always held with more or less tenacity, and which have not been materially modified by the recent discussions on the subject—to make, indeed, a kind of public confession of faith in this matter. Briefly stated they are, that, as beverages for the healthy, alcoholic drinks of every kind are in the vast majority of cases unnecessary, and in not a few positively injurious; that

in most chronic and in most stages of acute diseases they are also either unnecessary or injurious; but that in some conditions of acute and less frequently of chronic diseases they are, as medicine, very useful, and that in these conditions their place cannot yet be taken by any drug that shall be equally valuable. In saying this I regard the immediate physiological and therapeutical effects of the drug only, and not those remote moral and physical results, which the habit of taking it in excess as a beverage (engendered perhaps by the early relief experienced from its medicinal employment), might produce. But such moral results are in themselves so serious that a consideration of them always weighs with me, and makes one decide absolutely and firmly against the employment of alcohol, except I am convinced that a benefit, not attainable by other means, can be expected from it. To return, however, to my opinions as to the employment of alcohol and my reasons for entertaining them, I have said that I believe that for the healthy, alcoholic drinks are in the vast majority of cases either needless or injurious. To show that my practice harmonises with this opinion I may say that I have been a total abstainer from these drinks, during the whole of my life, with the exception of a short portion of my student's career, when I was recommended by a very distinguished living physician to take a certain measured quantity of alcoholic drink daily. I am sure that that gentleman, from the vigour with which he has on more than one occasion since publicly deprecated the employment of alcohol even in disease, would give me differ-

ent advice now; and so convinced was I of its inutility even then, that so soon as I ceased, in the conventional sense, to be a student, and thought that I might without presumption venture to have a medical opinion of my own, I ceased also to take the alcohol, and at once reverted to, and have ever since practised (with, I believe, great advantage to my health) that total abstinence from it which I had already previously observed. But in expressing the opinion that in the vast majority of cases people in health do not need alcohol, I of course imply my belief that there are at least some few exceptional cases in which it is necessary. And I am bound to say that this is my belief, though in saying so I am conscious that I shall perhaps be expressing an opinion which many who think with me generally cannot share. I myself know one or two people at least who have made what has had every appearance of being an honest effort to abandon the employment of that very moderate amount of alcoholic beverage which they had been in the habit of using, but whose condition so far deteriorated as to necessitate either the giving up of their duties or the resumption of their alcohol, and being so situated as to be unable to relinquish their duties they took the daily small allowance, which, either by its directly stimulating effect or by promoting the better digestion of their food, enables them to go on comfortably with their work. So far as I could judge from his account of it Mr. Brudenell Carter's case was also such an one as I have mentioned; and I must say that whenever I saw a person who, after a sufficiently prolonged trial of abstinence to allow of his system getting used to the change, suffered from recurring carbuncle, or any other manifestation of a low condition, I should feel bound to advise him to resume the daily use of his wine or beer. As to my employment of it in disease, this is governed mainly by my belief in the truth of the following propositions, all of which I am willing to admit are open to controversy:—First, that, administered in small doses, alcohol is an arterial

and cerebral stimulant, a temporary increaser of functional activity in the nervous and circulating systems; that it is at the same time, in a small degree, a food, being oxidised within the body, and thereby generating force; that, when diluted, it is rapidly and easily absorbed without exciting local irritation; and, that, in larger doses, it is a retarder of tissue change, and on that account probably a depressor of animal heat. Acting on these beliefs, I employ it mainly, indeed almost solely, in the following classes of cases:—First, those acute diseases where there is danger of the powers of the system being exhausted before the diseased process shall have terminated. Such cases are the acute specific fevers, erysipelas, pneumonias in the aged or weakly, acute poisonings, and so on. But I would by no means use alcohol as a mere matter of routine in all the above-mentioned acute diseases. In the young or middle-aged of fairly good constitution my own belief is that it would not be required. Thus during the last two or three years many cases of typhoid fever have been under my constant and careful observation, and with very few exceptions the disease has been passed through, and convalescence early and well established, without the employment of any alcohol. But if in it, or pneumonia, or erysipelas, or any other acute disease, there seems reason for apprehending a failure of the heart's power, as shown by soft, weak, or intermittent pulse or diminution in intensity in the cardiac sounds; or if delirium is constant and weak; or if the tongue is dry and tremulous and digestion all but suspended—in these conditions it is my habit to administer alcohol in such combination, dose, and frequency, as I think the circumstances of the case require (always of course having its effects carefully and intelligently watched); and with my present belief as to its value as a drug I cannot do otherwise than this. And, moreover, I am convinced, with that kind of conviction which springs from the careful observation of individual cases, that in not a few such I have seen

delirium diminish and clear away, the pulse improve in force, the tongue moisten, and the failing powers of life permanently revive under the treatment. But when I have said this I have said nearly all. In chronic diseases, with the exception perhaps of some cases of phthisis and the exhaustion which comes in the course and at the termination of malignant diseases, I seldom prescribe it—in many cases of such diseases never. Not that I doubt its value as a mere drug, but that in such cases especially I recognise the very great danger of inducing a habit worse in its consequences to the patient than disease or even death itself could be. A not unfrequent commencement of the habit of inveterate drinking may, in my opinion, be found in the temporary relief experienced by those who have been the subjects of melancholia, chronic dyspepsia, chronic neuralgia, &c., from the employment of wines or spirits medicinally; whereas I do not think there is any danger of forming such habits by their administration during the delirium of fever or in the other conditions of acute or chronic disease which I have mentioned.

IS ALCOHOL A STIMULANT OR A NARCOTIC?

Dr. JAMES MUIR HOWE read the following paper:—

The expression "alcoholic stimulants" is so common, not only among the public but also in the medical profession, that it requires considerable acquaintance with alcohol to avoid the impression that its main action is that of a stimulant. When once, however, its stimulant properties are called in question, there is great danger of falling into the opposite extreme; for we find many of our most scientific physicians declaring that alcohol is always a narcotic, and that even its apparently stimulant effects are in reality produced by its narcotic power. For example, it is held by Dr. Richardson that even the first quickening of the circulation produced by alcohol is because of its paralysing effect upon the minute nervous filaments supplying the ves-

sels. And if this be distinctly proved we shall be obliged to admit that alcohol never acts as a direct stimulant to the minute nerves; but that it exercises a stimulant effect upon the organism as a whole, and upon many portions of the nervous system in particular, there cannot be room for doubt. Indeed, the result of all our experience is to demonstrate that this agent is stimulant in small doses and narcotic in larger; and no one who does not fully recognise this double property can appreciate either the advantages or disadvantages of its administration in particular cases. For want of such knowledge, we have frequently seen alcohol given in excessive and increasing doses in the hope of producing stimulation; when the very first dose administered acted as a sedative to the patient in question, and every successive dose only deepened the narcotism. And, on the other hand, I have seen the amount of alcohol reduced to less than half of what had been previously taken, with the immediate effect of rousing the patient. A medical friend informs me that a single glass of beer produced in his own person distinctly sedative effects, rendering him utterly unfit for exertion, and he is only one of a large class in the community upon whom alcohol acts with intense effect. Hence the necessity of beginning with very small doses in those cases where we do not know how much can be borne without sedative effects. When a stimulant action is desired, small doses should be given at frequent intervals; but when a sedative effect is required larger doses must be administered at longer intervals. In this way, as was shown by Dr. Todd, the same daily quantity of alcohol may, by a difference of dose and time, be made to produce entirely opposite effects; and two physicians, each giving the same quantity of alcohol in the twenty-four hours, may be subjecting their patients to diametrically opposite treatment; the one may be stimulating almost every organ in the body, while the other may be keeping in considerable abeyance all its functional activity. In some per-

sons alcohol, in small doses, stimulates the appetite and promotes digestion; but in view of this fact, it is important to remember that its direct effect upon digestion is rather to delay than to accelerate the process, so that its beneficial action must be exerted through the nervous system. Again, without the most careful observation, we are liable to be deceived by the power possessed by alcohol to paralyze the nerves of the stomach, and thus to prevent their communicating to the patient information of gastric difficulty. Thus, a patient may suppose that his food agrees better with him on account of alcohol, when in reality the symptoms of indigestion are merely disguised. I have at present under my care a patient who cures his dyspepsia by means of small doses of whisky. He never exceeds the bounds of moderation, nevertheless every few months he is laid up with a severe bilious attack, which I am convinced could be entirely prevented by careful diet and the avoidance of alcohol.

He who takes a nip of brandy and water before dinner and a very moderate allowance of wine during the repast will, probably, make a heartier meal without gastric embarrassment than if he drank water. But, on the other hand it is highly probable that half the quantity of food without the addition of alcohol would prove of more permanent service to a man in fair health and with a moderate appetite. We are too apt to be carried away with the notion that anything must be good for a man which increases his appetite and promotes digestion, without considering whether the patient does not already consume and digest quite sufficient for the amount of exercise which he undergoes. In most cases of loss of appetite and indigestion among business men an increase of open-air exercise will do more good than either alcohol or tonics. In these cases we ought to exercise the greatest reluctance in prescribing alcohol until we are perfectly convinced that no other form of treatment will be of service; for in a very large percentage of them the

patient will continue his medicine for life, and in a few cases the doses will increase with wonderful rapidity. But the best claim of alcohol to the title of stimulant lies in its power to promote tissue-change and to increase the functional activity of the nervous system. Alcohol is generally spoken of as an agent which lowers temperature and prevents wear and tear of tissue. In considerable doses this is no doubt the case, but such doses cannot properly be described as producing a stimulant effect; for the lowering of temperature and the lessening of tissue-change are not the effects of a stimulant, but of a sedative. In small doses, however, alcohol very slightly elevates the temperature and promotes tissue-change. Now, this power to stimulate the ultimate tissues makes it a useful agent in the treatment of general nervous prostration. But I have found that even very grave conditions of extreme nervous exhaustion can be, at least as well, cured by change of air and scene, without exposing the patient to the risk of becoming a confirmed drinker.

With regard to the use of alcohol among hard-working professional and business men it is necessary for us to speak to our patients with great caution and in language which cannot be misunderstood. There are many men who can do more work in a day with a moderate allowance of wine than without it; but when men are in fair health the extra work done under the influence of the stimulant is probably in excess of what the system will continue to endure for any lengthened period.

In order to make up for this high pressure, nature demands frequent periods of repose, which are classified as colds, bilious attacks, &c., but which are in reality the direct results of over-work. To those who live an easy life a little alcohol more or less is a comparatively small matter. In their case the system can bear a considerable amount of stimulation without injury; and even if they reach the stage of narcotism as regularly as midnight, they may still live to a good old age, provided the constitution is

a good one. In such persons the tissues have little else to do during twenty hours of the twenty-four than to get rid of the injurious effects of the evening's enjoyment. When the nervous system has little work and no worry, and when life is passed in healthy circumstances, it is astonishing how much alcohol may be consumed with apparent impunity. Dr. King Chambers tells of a Greek priest, near Athens, who reached the age of nearly a hundred years, and who from early manhood had habitually drunk twelve bottles of wine per day. One need not suppose that this old gentleman's professional duties required a very large expenditure of nerve force. In such a town as Liverpool, and especially in these hard times, we find many business men whose brain will not cease working when business hours are passed; sleep refuses to deliver them from the worries and anxieties of commercial life. In such circumstances the narcotic power of alcohol is of immense advantage. One tumbler of toddy will stop the perpetual turning of the wheels of life. The only fear is lest the narcotic come to be regarded as an unmixed benefit, and its administration be continued with unfailing regularity. In fevers and wasting diseases, and in other cases where food cannot be taken, the power of alcohol to interfere with the vital processes, and thus to prevent tissue waste, is of considerable service; but this property, which is so useful in disease, becomes highly injurious in health. There can be little doubt that a high state of health is almost always associated with a large appetite, abundant activity of tissue, and consequently considerable tissue-change. Any agent, therefore, which interferes with the activity, or in other words lowers the vitality of the tissues, must be more or less injurious, unless where such tissues are being destroyed with exceptional rapidity. Besides, whatever agent interferes with destruction of tissue must also interfere with its due repair. It is on account of this anti-tryptic power that alcohol is able to maintain life in the absence of ordinary

food. Opium and other narcotics possess this property; but the vitality which they are able to support is, necessarily, of a low type.

In conclusion, alcohol is, like fire, a good servant but a bad master, and it becomes us as the conservators of the public health to be on our guard lest, through our incautious prescription, it should gain the mastery of any of our patients. The fact that many practitioners have ceased to administer alcohol in their practice without any diminution in their success ought to be sufficient evidence that its wholesale administration must be very prejudicial. Alcohol is only one of the many drugs which we have at our disposal, and those of us who feel compelled to be careful in our prescription of it need not feel ourselves embarrassed for an efficient substitute in very many instances.

Mr. THOS. CARSON read a paper entitled, "Is physiology final?"

Dr. J. J. RIDGE, Honorary Secretary of the British Medical Temperance Association, attended as a deputation from the Council, and explained the object and nature of the Association. He then exhibited diagrams, kindly lent by Dr. Batten, of Gloucester, demonstrating the influence of a pint and a half of beer per diem in increasing the frequency and reducing the tone of the pulse.

Dr. CARTER then invited discussion on the various topics which had been brought before the meeting.

Dr. LEET expressed pleasure at being present at such a meeting. The prevalence of intemperance was a serious evil, but he considered that the injurious effects of drink would be lessened if it were possible to obtain it pure. He had sent samples of Guinness's stout and Bass's ale to their respective makers, who send out the beer in bulk, and in each case their analyst had reported that the liquor had been injured by bad bottling. He advocated the "flagon system," and showed specimens of the flagons employed. While surgeon in the Engineers he had advised a ration of non-alcoholic beverage during

hot weather, and had found that the men were able to work well therewith, although he could not say from his own experience that any harm resulted from drinking a pint of beer a day. The state of the Liverpool water was not such as to favour the adoption of total abstinence.

Mr. TOWNSON had been a total abstainer for many years, and was none the worse for drinking Liverpool water. He desired to bear emphatic testimony in favour of this course: he had under his charge all the Post-Office employés in Liverpool: each one was carefully examined by him before being engaged, and, although the work of the postman was a most laborious and trying one, involving many hours of labour daily, he could affirm that, when the newly-engaged men came before him again at the end of three months for a second examination, he had never had to reject a man who was an abstainer as having proved unequal to the work, although this had repeatedly happened in the case of non-abstainers. He knew that many medical men hesitated to avow themselves abstainers from fear of pecuniary loss; but he could only say that his practice now was more extensive than it had ever been in his life.

Mr. RUSHTON PARKER (Lecturer on Surgery in the Liverpool School of Medicine) was not prepared to say he was a total abstainer; but he found from experience that, if he had any work to do which required an exceptionally cool and clear head, he must abstain altogether from intoxicating liquors. He considered that the strong and healthy could take these things in moderation without apparent harm, and that they were more per-

nicious to the sick and delicate than to the healthy.

Dr. D. WILLIAMS had personally abandoned the use of alcohol during an illness some few years ago, and had not resumed it. He considered himself better without it. He could not regard the quantity used in the experiment referred to by Dr. Ridge—namely, a pint and a half of beer, or its equivalent, daily—as moderate. In his opinion, alcohol ought not to be given to children under four or five years of age under any circumstances, whether of health or disease. He believed that if any patients seemed anxious to be allowed to take alcohol, they were just the ones who ought to be refused. He was not prepared to pledge himself to total abstinence, but believed strongly in its value.

Dr. WHITTLE (Lecturer on Medical Jurisprudence in the Liverpool School of Medicine) could not agree with his friend Dr. Williams, that alcohol ought not to be given to sick children, as he believed that he had saved many cases of bronchitis by employing it. At the same time he deplored the prevalence of intemperance, and felt that great responsibility rested with medical men in dealing with it. He also could not regard a pint and a half of beer as a moderate quantity.

Drs. LEIGH and IMLACH having made a few remarks,

Dr. RIDGE asked leave to state that those who joined the British Medical Temperance Association were not required to sign any pledge whatever, but could withdraw from the Association honourably at any time, if for any reason they saw fit to resume the use of alcohol as a beverage.

The meeting then terminated.

MEMBERS HOLDING PUBLIC APPOINTMENTS.

The Council of the British Medical Temperance Association, having had brought before its notice a case in which a duly qualified practitioner of medicine was severely prejudiced in his candidature for a public medical

appointment, in consequence of his professing the principle of total abstinence irrespective of the employment of alcohol as a medicine, has passed the following resolutions:—

1. That the question of the general

use of alcoholic drinks as beverages being entirely distinct from the question of the use of alcohol as a remedial agent, and the profession of the principle of total abstinence being no bar to the administration of alcohol in the treatment of disease, it is an extreme injustice to permit hostile feelings to total abstinence to influence electors in the choice of medical officers to public institutions.

2. That, since amongst the large body of members belonging to this Association there may be found a con-

siderable number of practitioners who already hold important public medical appointments, membership is not necessarily a disqualification.

3. That this Council earnestly protest against the view that because a practitioner of medicine is conscientiously enlisted in the war against intemperance and one of the great causes of disease, he is not fitted to be entrusted with the medical care of those who in public institutions are the subjects of disease.

NEW MEMBERS.

Dr. Burnside	.	.	.	.	.	Clondalkin, Co. Dublin.
Dr. Chaldecott	.	.	.	.	.	Chertsey.
Dr. Duncan	.	.	.	.	.	Carmarthen.
Dr. Fairbanks	.	.	.	.	.	Wells.
Dr. Fitzsimons	.	.	.	.	.	York.
Dr. Forrest	.	.	.	.	.	Stirling.
Dr. S. A. Fothergill	.	.	.	.	.	Haswell.
Dr. Johnston	.	.	.	.	.	Stirling.
Dr. MacDonnell	.	.	.	.	.	Broadfield, Co. Clare.
E. Meacham, Esq.	.	.	.	.	.	Manchester.
Dr. Pearson	.	.	.	.	.	Stratford.
Dr. Stainthorpe	.	.	.	.	.	Wareham.
Dr. F. Vacher	.	.	.	.	.	Birkenhead.
Dr. Wall	.	.	.	.	.	Pembroke.
Dr. J. Ll. Whitmarsh	.	.	.	.	.	New Southgate.
A. K. Willis, Esq.	.	.	.	.	.	Kilburn.
Dr. J. Wilson	Stockton-on-Tees.

NEW ASSOCIATE.

H. Pratt, Esq.	St. Thomas's Hospital.
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NOTICES.

The next Quarterly Meeting of the Association will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, London, on Thursday, 12th February, 1880, at 4 p.m.

A paper will be read by Dr. C. J. Russell.

Dr. Norman Kerr will read a com-

munication on the use of alcoholic liquors during the menstrual period.

Members are requested to observe that nominations for any office must be sent in not later than the last day in March next, according to Rule V.

J. J. RIDGE, *Hon. Sec.*

Miscellaneous Communications.

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ALCOHOL IN HEALTH AND DISEASE.

At the first annual meeting of the Dominion Medical Association, held at London, Canada, on Wednesday, September 10, 1879, Dr. Bucke, superintendent of the London Insane Asylum, read the following able paper on "Alcohol in Health and Disease":—

Mr. President and Gentlemen,—There are no more important questions before the medical profession to-day than the following:—(1) Can alcohol be so taken as to be of value to a healthy organism? and (2) Is alcohol of any value; and, if so, of what value as a medicine? Hundreds of able men are seeking answers to these questions, but so far have found none which have been able to make themselves accepted with anything like universality by the large body of intelligent men in and out of the medical profession who are waiting and listening for a decision on these points. For there is still a large and intelligent body of men, as well in Canada as in all other countries of Christendom, who believe honestly, after lifelong experience, and after mature thought, that alcohol taken at proper times and in proper quantities is capable of rendering life longer, more vigorous, and more happy; and there is another class, equally intelligent, thoughtful, and honest, who believe just as firmly, that, whether taken in greater or less quantity, the balance of results is always against its use—that by so much, in proportion to the quantity of alcohol taken, be it more or less, the person taking it has his life shortened, his vigour lessened, and his happiness decreased. So, again, considered as a medicine, I do not doubt that there are able physicians in this room, as there are all over Europe and America, who consider alcohol one of the most valu-

able drugs we possess; who would consider that the man who withheld alcoholic stimulants from a patient with typhoid fever or typhoid pneumonia ought to be indicted for malpraxis; while there are many other physicians, perhaps equally learned and thoughtful, headed by such men as Benjamin W. Richardson and William Gull, who rarely ever use alcohol in any form in their practice, and consider it of scarcely any or of no therapeutic value. It is highly undesirable that doubt should continue to exist upon such questions as these. For the sake of both the well man and the sick man these questions should be answered as soon as possible, once for all, and set at rest for ever. For even if alcohol is not so harmful as the advocates of total abstinence say it is, still we know that the injury it inflicts on our race is far from being contemptible. And, on the other hand, if alcohol has half the value that its friends claim for it, then it is an agent the loss of which, through hasty judgment and prejudice, should this happen, would be most calamitous both to the profession and to the world. And it does seem not a little remarkable that upon points where experience is almost infinite in amount, and freely accessible to every one, these doubts should so long exist; and the fact that they do exist proves, I think conclusively, that whether alcohol be harmful or helpful in health or disease, it must be—taken in reasonable amount for a limited time—far less harmful or far less helpful than either its opponents or its advocates say it is. For if alcohol, used in moderate quantities, possesses the power to injure that our total abstinence friends say it possesses, or if it

had one half the therapeutic value that its advocates claim for it, surely these questions would have been settled long ago.

The proper way to fix the value or no value of alcohol as a food, or as a medicine, would be to find out what the organism does with it, and what it does to the organism when it is introduced into the circulation. If this action and reaction could be determined with certainty, the answer to the previous questions would follow without further trouble. Unfortunately, it has so far been found impossible to answer these questions with any certainty. There is no doubt that when alcohol is drunk in large quantities, the organism having at that time no need, in consequence of some exceptional condition, for these large quantities,—there is no doubt, I say, that then a very large part of the alcohol leaves the body as it entered, in the form of alcohol. Not having been altered chemically, and not being, like water, a constituent of the organism, it could not have fulfilled in this case the functions of a food, and if no medicine was needed at the time, it could have done no good as medicine. It seems clear, then, that in the case supposed alcohol, however little harm it might do, could do no good. But there are other circumstances in which the problem is not by any means so simple—circumstances of exhaustion and disease—in which it is not at all clear to me that the alcohol, or some of it, is not oxydised in the body, and though it cannot supply tissue, yet it supplies force to the organism. It has been argued that alcohol is a food, because it is said that those who habitually use alcohol eat less than those who do not use it. I believe this last is true, but I do not believe that the inference from this fact is a correct inference. Those who use alcohol use less food than do those who use no alcohol, but do they evolve as much force? If they do, then alcohol yields force to the organism; if they do not, then this argument breaks down. The fact is that it is capable of proof that those who use alcohol habitually do

not and cannot evolve force, either mental or muscular, as freely and to the same extent as do and can those who abstain from alcohol. The proof is that, as a class, what Richardson calls the alcoholics are sluggish and incapable as compared with those who use no alcohol, and that alcohol incapacitates us for any work to accomplish which requires the utmost stretch of our faculties, whether the work be muscular or mental; in other words, it reduces our capacity for work, that is, our capacity for evolving force. So that wherever great muscular strength and endurance are needed the best advisers forbid alcohol. And we all know, those of us who have ever seriously tried to think and have used alcohol, that the smallest quantity of this drug impairs mental vision and relaxes the mental grasp upon phenomena. Such arguments as this might be furnished on one side of the question or the other almost *ad infinitum*, and no definite conclusion ever be arrived at, for the reason that, as I have said, the problem does not seem to be completely soluble from this side, because our knowledge of the total conditions of force evolution by the organism is too limited. In the remarks which I propose to make to you at present, I intend to approach the question not from the abstract side—the side of chemico-vital science—but from the concrete side, the side of experience. I propose to consider what may be called the historical side of the problem. Without calling in question directly the nutritive or therapeutic value of alcohol, I intend to inquire into the mental attitude of mankind at large towards this agent, and see whether something cannot be learned about it in this way. It needs no argument to show that opinion upon the value of alcohol is far from being a fixed quantity. Putting aside certain particular cases, such as shock, in which alcohol is given, not as a stimulant, but for its special physiological action of relaxing the small blood-vessels, and which cases, as causes for the administration of alcohol, are, in proportion to those about

to be mentioned, infinitely few—I say, putting aside these cases, five positions have been successively occupied by the friends of alcohol and attacked by its opponents:—1. The first of the five positions is that alcohol, in the form of beer, wine, or spirits, is necessary to maintain a healthy man in health, and to preserve the vigour and strength of his body and mind when subjected to the wear and tear of ordinary life. 2. The second position is that in circumstances of unusual hardship, exposure, and exertion, alcohol is necessary to prevent the exhaustion and breaking down of the organism. 3. The third position is that, if not a necessity, alcohol can be so used by people in good health as to lessen the discomforts and add to the comfort of life. That, in fact, it is capable of increasing our happiness both absolutely and relatively to our unhappiness. 4. In the fourth place, it is said that if alcohol is not a necessity for strong and healthy people, it is a necessity in the case of many people who are temporarily or permanently enfeebled by almost any cause. 5. And fifthly, it is claimed that alcohol is a valuable medicine; in fact indispensable in acute adynamic states. I intend to make a few remarks first on each of these positions in turn, and then on all of them taken together.

It is scarcely creditable to many of us now in this country that it was ever held that alcohol was necessary to enable a healthy man to maintain his strength and do his ordinary work, yet a very few generations ago this belief, in England, was almost universal, and I myself have known many old people there who believed it as firmly as many of us now believe that a man would get weak if he ate no meat. Though there are still advocates of alcohol who hold this position, they are few, and they are not among the learned, and it may fairly be said, speaking generally, that this position is abandoned. The second position,—that alcohol is necessary, or at all events useful in circumstances of great exhaustion and exposure,—is still largely held, though the evidence

against it is overwhelming. In Arctic and other explorations, in training for boat-races, and in fact in all cases where unusual endurance is required, and where the men who are to bear the strain are under competent discipline, the use of alcohol has been abandoned, and in every case with advantage. It is found that men bear exposure, heat and cold, fatigue, hunger and thirst, better without than with alcohol, even when this is given under the orders of skilled physicians, which is as much as to say that our present knowledge does not enable us to use this agent in such a manner that it shall increase the energy of the organism. What now shall we say of the third claim which is made for this agent—viz., that, properly used, alcohol is capable of increasing the pleasure and comfort of a man's life absolutely and relatively? If alcohol can do this, its use may be justified, though through it the total duration of life be lessened. This is not a question which can be settled by reasoning; it must be decided entirely by experience. No one who has always been in the habit of using alcoholic stimulants can be heard on this point, because, having had no experience of life without alcohol, such a person cannot draw a comparison between life with and life without that agent. The opinions of those who have never drunk alcoholic liquors must equally be disregarded, since they do not know of their own experience that they would not have been more happy if they had used them. We must confine ourselves, therefore, to the testimony of those who for a certain part of their lives used alcoholic liquors as a beverage, and who for a certain other part of their life have altogether abstained from the use of these stimulants. Now, I have known a great many people of this class, and have spoken to many of them upon this point, and I am able to say that beyond all doubt, as far as the testimony of these people is concerned, the balance is strongly against alcohol. The verdict is unmistakable. It is that the pleasure derived from alcoholic stimulation, no matter

how slight or how great this may be, is on the whole more than balanced by the depression following it. I am also able on this point to give my personal opinion, based upon careful observation of my own experience. For many years I have used alcohol in moderate quantities in the forms of wine, ale, and whisky, sometimes using one and sometimes another, for weeks and months at a time, and often going weeks or months without using any alcoholic liquid, and my mind is at last fully made up that I for one at least enjoy my life more without alcohol than with it, and acting upon this opinion I have lately abandoned its use altogether. Now, if such evidence as I have given will not settle this point, it will show at least that this claim which is made for alcohol with such confidence by many persons is not settled in favour of alcohol; but that it is either settled against alcohol, or else remains undecided. Since writing this paper I have met the following remark in an article on "Alcohol: its action and uses," by Dr. Gasquet, in the *Dublin Review*, for April of this year, and I was much struck with the singular resemblance between it and what I had just written a day or two before. Dr. Gasquet says: "I have questioned many persons, who, having been always temperate, have become total abstainers, and have been almost always assured that they were conscious of an increased mental vigour and aptitude for work"; and the doctor says, in conclusion, "my own personal experience has been the same." What now shall we say about the use of alcohol by feeble persons, invalids, and all those the vigour of whose systems is from any cause continuously below par? I have lately made a very large experiment which bears directly upon this point. I have discontinued the use of alcohol entirely at the asylum of which I have charge, except in the cases of persons who are not only feeble but who are actually ill, and even in the case of actual illness, as will appear further on, I use very little. At the time I assumed charge

of the London Asylum the average number of patients at that institution was about 600. These people used about twenty-five hundred dollars' worth a-year of beer, wine, and whisky. Now, if alcohol does any good to feeble people, it ought to have done good to these people, for they belong to the very class who appear to need stimulants the most, and the stimulants were given to them, not according to their own notions or feelings as to when they were to take them, or how much they were to take, but by thoroughly competent physicians, who had the patients under observation, either directly or indirectly, day and night. In the course of the last year I have entirely ceased to use beer, wine, whisky, and brandy. Over a year ago I began this reform (as I call it). Each month I struck some names off the list of those who were given beer, wine, or whisky, watching carefully all the time the effect of the withdrawal of the accustomed stimulant. I saw nothing to warn me against the course I was pursuing, and nearly a year ago I closed the spirit lists entirely. No evil consequences have followed this step. The health of the asylum has never been better. I doubt if it was ever as good as it has been since the use of alcohol was discontinued. The death-rate has not gone up; the recoveries are as large a percentage of admissions as they ever were, and, in fact, the change seems to be an improvement in every way. What struck me as being most remarkable about this total abstinence movement was that the patients did not seem to mind scarcely at all being deprived of their beer, wine, or whisky, as the case might be. Scarcely any of them begged to have it restored to them, and the few who did so forgot all about it in a few days. In watching the individual patients, as the stimulant was taken from them, I could very seldom see any difference in their health or strength which could be attributed to this cause. In the case of one very old man, who had been a soldier, and who had probably used alcohol every day of his life

for over fifty years, there was considerable loss of strength, and after a few weeks I put him on stimulants again. This man had been failing for some time, and a few weeks ago he died of old age. This was the only patient who seemed to feel the withdrawal of the stimulant. In the case of another patient, a very feeble woman, the result was the reverse. This woman had not sat up for many months. She lay on a bed or sofa all the time. She had no disease as far as I have been able to make out. She was simply weak. My assistant said, "If you take away her wine, she will die." And I put off taking it from her, for I was a little uneasy about the consequences of the step myself. At last, about ten months ago now, I did stop it. In a few weeks afterwards she began to sit up, and she has sat up and walked about every day since. Now, even if the experiment just detailed to you stood alone, it would almost settle the question we are now discussing; for if six hundred feeble people are as well off without alcohol as with it, why not six thousand or six millions? But the experiment I have cited does not stand alone. Many other institutions of the same kind, or similar to the London Asylum, also do without alcohol; and while I have known of several asylums leaving off the use of alcohol, I have never known of one resuming the employment of this agent after a fair trial without it. This being the case, I think we may fairly say that though alcohol used in moderate amounts under the direction of a physician may not be injurious to the average invalid or feeble person, yet that it is certainly not indispensable to such persons, and that the probability is that they are in almost every, if not in every, case better without it. We come now to the position in which alcohol is most strongly entrenched—that is, to its use as a medicine. Considered as a drug, alcohol is supposed to be most valuable in circumstances of extreme exhaustion, in what we call acute adynamic states. In typhus and typhoid fevers—in typhoid pneumonia—in malignant scarlet fe-

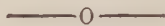
ver—in small-pox, and generally in states of the system where the patient is likely to die from asthenia within a few days, and where, if his life could be prolonged for a short time, the disease running its course, he would be carried over the point of extreme depression, and his life saved. What shall we say about this? We will say, in the first place, that it is very hard to tell, when the patient recovers in such cases, what caused him to recover—whether he recovered because the disease was not severe enough after all to kill him, because his constitution was stronger than supposed, or because he had some medicine which supported his strength or weakened the force of the disease. We will say, in the second place, that the best physicians, such as Benjamin Richardson and William Gull, do not use alcohol nearly as freely in either acute adynamic or any other cases as did the best physicians of twenty or thirty years ago, or any time before that, and that the men of most ability and experience to-day do not believe in the power of alcohol to tide the patient over a crisis with anything like the confidence that was reposed in this agent down to very recent times. But besides these considerations there is another which I think entitled to still more weight. It is this: whether we use or give alcohol to support the body under the strain of ordinary life, or under exceptional strain or exposure; whether we take it with a view of adding to the happiness of our lives; whether we give it to those who are merely feeble, or to those who are suffering from acute and dangerous exhaustion, we give or take it in every case with the same view, with the same expectation. This expectation is that it will in some way increase the ability of the organism to evolve force, or that it will in some way make the old supply of force go further in maintaining the functions of the body. Now, either alcohol possesses this power, or it does not possess it. If it does possess this power, it seems to me that all the claims enumerated in this essay which are now or have been made for

alcohol must be eventually sustained. If it does not possess this power, then I think it is equally certain that all these claims must be at last abandoned. That alcohol does not possess this power is believed on the grounds of chemico-vital science by those who have studied its physiological action the most deeply; and, as I have shown above, experience does not tend to the belief that alcohol possesses any such property. This being the case, it seems to me that we are obliged to conclude that so far we have no sufficient warrant for the use of this drug, either in health or in disease; and that if we use it at all it must be merely in the way of experiment, and with the full understanding that a vast preponderance of the evidence so far collected on this point is against the assumption that alcohol can be taken with advantage, except in certain very rare and exceptional cases, either in health or in disease. And in connection with this general view of this case, we should never lose sight of the fact that, while we know that alcohol introduced into the system, either continuously in moderate amounts, or at one time in larger quantity, is capable of producing the gravest evils — of even causing death — it still remains doubtful whether in any amounts, or under any circumstances, it is ever of value to a living organism. This being the case, the attitude of reasonable men towards this agent ought surely to be, instead of giving or taking it as a matter of course until the point was settled, to leave the drug alone until it be shown—if that time ever comes—when and how it may be used, so that the balance of results from its use may be on the credit and not on the debit side of the ledger; and, meantime, let experiments be made as in the case of any other drug the value or application of which is in doubt. For what would any one of us say if he were asked to countenance the indiscriminate use of any drug, say quinine, on the chance that its daily or habitual use by a large part of the community might possibly on the whole result advantageously? Should we not indignantly

scout such a proposition, if indeed we could be brought to consider it at all? But if we countenance the habitual use of alcohol as a food, as a beverage, or as a medicine, simply because people like it and expect us to countenance it, and without being fully convinced at the time when we permit or order that it will be on the whole beneficial to the person who is to take it, what better are we in this case than we should be in the other which I have just supposed? I will close this paper by noticing a curious parallelism glanced at by Richardson in his magnificent little book on "Total Abstinence," between the use of alcohol and blood-letting. "There was a time, not so very long ago either, when almost the same claims were made for blood-letting as those mentioned above, which have been, and are, made for alcohol. It was said:—(1) That for a healthy person to remain in health it was necessary that he should be bled once or twice a-year; (2) That if not absolutely necessary, the person felt better, and was better for the loss of blood; (3) That in almost all severe accidents and diseases blood-letting was absolutely indispensable. These claims for blood-letting have been abandoned one by one in the order in which I have mentioned them, and in the same order in which the claims for alcohol are now being abandoned; and I am fully satisfied that just as sure as the world has learned to do without being bled, except in very rare and special cases, so surely will it learn to do without alcohol, except in equally rare and special cases. And I am also certain that just as the world is better off without the general use of bleeding, both for the sick and well, so will the world be far better off when it comes to abandon the general use of alcohol, both in health and disease. And I believe it would be perfectly safe to predict that a time will come, and that perhaps before many generations have passed away, when it will be as rare for a physician or surgeon to prescribe alcohol as it is now for either of them to prescribe blood-letting, and when a healthy

man will no more think of taking alcohol to keep him well or to make him feel better than he thinks now of going to a surgeon to be bled with a view to the same end.”

A lengthy discussion ensued in reference to the paper, which was described as one of the most able papers ever read before the Association.



PREVENTABLE MORTALITY—THE MORTALITY FROM ALCOHOL.*

By NORMAN KERR, M.D., F.L.S.

TILL about two years ago I laboured under the impression that the statement that 60,000 victims to intemperance died every year in the United Kingdom was a wild and unwarranted exaggeration. But on applying my own medical experience, with that of several medical friends, to the total number of practitioners in the three kingdoms, I was most reluctantly forced to confess that by no reasonable reckoning could I estimate our annual mortality from intemperance in alcohol at less than 120,000 souls, of whom 40,500 succumb through their own personal indulgence, and 79,500 through poverty, disease, accident, or violence springing from the indulgence of others. This estimate has been widely and fully criticised all over the country, but its accuracy has not yet, I regret to say, been questioned; many high authorities, such as Dr. Hardwicke, coroner for Central Middlesex, and many well-known officers of health having pronounced it “extremely moderate” and “far under the truth.”

This computation was based on the number of medical men in practice being assumed to be 16,000; but from an undertaking recently completed I find that the actual number is a little more than 18,000. The same ratio as before applied to 18,000, the true number, instead of 16,000, the supposed number, would give an annual mortality of 134,499, of which 45,562 would die from personal intemperance, and 89,437 from the consequences of the intemperance of others.

Glance for a few moments at the

deaths from personal drinking habits alone. Dr. Thomas Morton, by an independent and totally different mode of inquiry, puts this much higher than I have done. His own experience, with that of nineteen medical friends, points to 39,287 as the annual number of deaths in England and Wales. Apply this ratio to the entire United Kingdom, and the total annual mortality from alcohol in persons dying from their own excess would be 52,640. These records embraced little more than half their due proportion of deaths in workhouses, and no deaths at all in hospitals and asylums. When it is remembered that in 1877 (fortieth annual report of the Registrar-General, recently issued) no fewer than 32,096 persons died in workhouses, 12,570 in hospitals, and 4,666 in lunatic asylums, a considerable proportion of all these cases being known to be intemperate, it will at once be seen that Dr. Morton's results would exceed the 60,000 we have been accustomed to hear of as being the yearly holocaust to alcoholism.

Dr. Lankester, the late respected coroner for Middlesex, estimated the direct mortality from excess in drink at a higher figure still. In his opinion one-tenth of all our deaths arise from this cause alone, equivalent in 1877 to 67,000 deaths.

In the past twelve months at least five deaths in my own practice have arisen, directly or indirectly, from personal excess. As, from public appointments bringing me an unusually large share of practice, my deaths have been twenty per cent. above the average number of deaths falling to the lot of each practitioner, we must

* A Paper read to the Sanitary Congress at Croydon, October, 1879.

deduct this proportion. This leaves four deaths to start from; and if each medical man in active practice had a like experience, the total deaths would be 72,000. But, as I have had considerable parochial practice, it appears to me only just to deduct another twenty per cent., which would give an annual death-roll of 57,600.

Looking at the matter from every possible standpoint, and with a view to understate the truth, making deductions very much larger than even the minutest scrutiny would appear to indicate as ample, I cannot venture to estimate the annual mortality in the ranks of the intemperate at less than 40,000. The actual number I believe to be very much greater. Our distinguished President of Congress, Dr. Richardson, in his brilliant inaugural address to the Medical Temperance Association during the present year, endorses this appalling death-reckoning with the authority of his approval.

In some occupations the alcoholic death-rate is almost incredible. For example, there are some 800,000 persons engaged in the manufacture and sale of intoxicating drinks, and the deaths in this class are so numerous that Dr. Farr has demonstrated, from the Registrar-General's returns, the truth of the utterance of the *Edinburgh Review*, "The potboy of the metropolis scarcely lives out half his days, and the publican is almost as great a sinner as his man in the way of intemperance." The annual rate of mortality per 1,000 between the ages of twenty-five and sixty-five is among clergymen 11·7, while among publicans, beer-sellers, and wine and spirit-merchants, it is 26·64.

It may be objected by those unacquainted with the facts that in the Registrar-General's fortieth report only 1,146 persons appear as having died from alcohol in 1877 in England and Wales. All who are familiar with the subject know that the registration returns are no criterion whatever of the prevalence of drunkenness as a prime factor in the causation of death. In the present certificates of death medical practitioners are called upon only to state the disease from

which death occurs, and are not asked what has caused the disease. Of the many members of the profession whom I know not one ever hints at alcohol in the death certificate unless in those cases in which the name of the fatal disease, such as delirium tremens, is itself is an evidence of the operation of this narcotic poison. Our death certificates are at present liable to publicity, and the proclamation to the sorrowing survivors and to an inquisitive public of the secret drunkenness of some loved and respected deceased would but ruthlessly harrow the feelings of the former and pander to the idle curiosity of the latter. Were, however, all deaths certified by some medical expert independent of private practice altogether, or were the history of the origin of the disease that has cut short the life treated as a confidential report for purposes of public health, we would arrive at a much closer approximation to the actual causes of preventable mortality than we have any possibility of doing at present.

By the debilitating and lowering effects of personal inebriety, the human constitution is not only rendered abnormally liable to be attacked by serious disease, but is also deprived, in great measure, of the strength indispensable to the successful averting of a fatal issue.

So much for the mortality from the intemperance of the slain by alcohol. But the preventable mortality from drinking embraces a much wider range. For everyone whose life is shortened by his own immoderate indulgence in drink, probably at least two innocent lives are sacrificed. Of the many infants killed by suffocation, the greater part meet their death through the drunkenness of their parents. Large numbers of tender children are constantly being mercilessly starved to death from their natural protectors wasting their substance in drunkenness and dissipation. Numerous deaths occur in the person of weakly wives and families from an insufficient supply of nourishing food, and from impure air, overcrowding, and other insanitary

conditions under which they are compelled to exist (not live), through the money which would have furnished ample nourishment and healthy dwellings having been squandered in intemperate living by highly-paid and inebriate heads of families. And to the sad catalogue of victims to this preponderating cause of preventable mortality must be added the many accidental and violent deaths arising from the negligence, foolhardiness, or fury engendered by the giving way to excess of persons other than the killed. Coroners have but one tale to tell, the latest testimony being the powerful deliverance of Mr. W. J. Payne, of Middlesex, who said, at an inquest held only a few weeks ago, on a man aged forty-two, who had committed suicide through drinking, "If it were not for the drink the services of a coroner's jury would be but seldom required." The *Pall Mall Gazette* is justly indignant at a drunken mother in Salford, on three of whose children there have been inquests in "uncomfortable circumstances," the first two infantile victims to alcohol having been overlain while she was drunk, and the third having succumbed to chronic starvation.

The influence of alcoholic indulgence on the death-rate was well illustrated in the city of Glasgow towards the end of the first quarter of the present century. In 1821 the number of deaths, from Cleland's tables, was 3,686, and in 1822 was 3,690; but in 1823, when the reduced duties on distilled spirits began to operate the mortality rose to 4,627, and in 1824 to 4,670. I have inquired into the causes of this remarkable and immediate increase of mortality, and, after eliminating every other contributing factor, can come to no other conclusion than that the sudden and marked increase arose almost entirely from the increased consumption of spirits consequent on the cheapening of the liquor from the reduction of the duties.

The sway exercised by alcohol on the rate of mortality is clearly shown in the following table, extracted from the fortieth report of the Registrar-General.

Mean annual rate of mortality in England from each class of causes for two quinquenniads, 1865-74; also rate of mortality in the years 1875, 1876, and 1877:—

Classes.	Causes of Disease.	Annual deaths to 1,000,000 living.				
		5 years— 1865-69.	5 years— 1870-74.	Year 1875.	Year 1876.	Year 1877.
I.	Zymodic diseases.....	5,171·8	4,849·2	4,473	4,005	3,559
II.	Constitutional diseases	4,145·4	3,777·6	3,775	3,627	3,613
III.	Local diseases	8,887·2	9,165·6	10,373	9,505	9,450
IV.	Developmental diseases	3,605·0	3,367·4	3,290	3,045	2,940
V.	Violent deaths	797·4	751·6	793	762	723

From this table it will be seen that in every class save one the mortality has steadily and markedly diminished; but in Class III. the mortality has, up till the year 1876, as markedly increased. In this class the principal increase has been in deaths from diseases of the brain and nervous system, of the organs of circulation, of the respiratory organs, of the liver,

and of the kidneys. These are precisely the organs most apt to be seriously affected by excess in alcohol, and it is a significant fact that since the lessened consumption of intoxicants, from the combined influence of the pressure of hard times and the rapid spread of temperance principles, beginning with the year 1876, there has been a decrease each year in Class III.

I refrain from entering upon even the most cursory consideration of the extent to which "drinking far short of drunkenness" affects the death-rate. The records of fair comparisons, in insurance companies, friendly societies, and large bodies of troops under similar conditions, point to alcohol taken in constant though limited quantities shortening human life to from 10 to 17 per cent. The mortality of the Rechabites, for instance, is from 10 to 12 per cent. below that of other friendly societies; and in the United Kingdom Provident Institution the duration of life is 17 per cent. longer among the abstainers than among the careful drinkers. If Dr. Richardson's opinion—that were the nation converted to temperance our national vitality would be increased one-third—be well founded, and I see no reason at present to doubt its accuracy—in the year 1877 we lost prematurely through alcohol more than 220,000 lives. I prefer to limit the present inquiry to the influence of the excessive use of alcoholics on the rate of mortality, inasmuch as this is a department of the investigation in which we can all work. This paper has reference, then, to deaths from immoderate drinking alone.

Is there any possibility of arriving at the truth, and, if so, what is the most accurate method of inquiry? We can never hope to trace the whole deaths occasioned by alcoholic excess, as secret inebriates almost invariably conceal and deny their besetting sin, and the period of medical attendance is often too brief for the detection of the truth. But there is no reason why we should not be able to come at the greater part of the actual mortality. We who have hitherto essayed to methodically investigate this important question are too few (but two attempts on a scientific basis having as yet been made) to warrant the application of the results of our practices to the entire death roll of the country; but if 500 medical men in

active practice in different parts of the kingdom, some in city, some in country practice, were to keep an accurate record of the causes of all deaths occurring in their practices for a specified period of twelve months, the ratio so obtained might be applied both to the total number of deaths and to the total number of medical practitioners.

Let the true fatality from alcohol be what it may, it is wholly unnecessary. The use of intoxicating liquors as beverages is indispensable neither to our existence nor to our happiness. Nay, by universal consent, the world would be healthier, happier, and altogether better were these poisonous liquids banished for ever from our midst. The continuance of death from alcohol is utterly without excuse. The loss of life from this agent is the purest specimen of preventable mortality extant. Why, then, should we not at once and for ever put an end to it? Were no higher interests involved, the terrific and needless slaughter from an artificial irritant narcotic poison demands immediate and emphatic action. We are surely ever open to sufficient and unavoidable dangers to person and to life without cherishing at our domestic hearths and honouring in our most sacred festivals so poisonous and deadly an article, manufactured by human ingenuity at the expense of the destruction of enormous quantities of the food supply so essential to the preservation of the public health. The enlightenment of the public mind on the fearful amount of preventable disease and death wrought by the ravages of alcohol is an appropriate mission for a sanitary congress, and will greatly aid in arousing that popular sentiment which alone can effectually stamp out this easily preventable mortality by the social ostracism of the offending artificial poison and the speedy enactment of efficient prohibitory legislation.



Notes and Extracts.

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AMERICAN SUBSTITUTES FOR ALCOHOL.—The *Medical Record*, the first medical weekly of New York—has a leading article upon this subject, in which the Editor says:—"We find that the efforts of temperance reformers are turned much more than formerly towards introducing some substitute for alcohol. Failing in the direct attack they are attempting a flank movement. There is now manufactured to meet in part these demands a series of aerated waters which equal many wines in delicacy of flavour. Ales and beers with an inappreciable amount of alcohol, and wines from unfermented grapes are also made, and form agreeable drinks, which may, to some extent, satisfy the demands of social occasions. For the weariness that follows muscular or mental exertion, the best things are food and rest. If drinks are craved, however, we have in thin oatmeal or Liebig's extract of meat, foods which enter the circulation so rapidly that their effect is comparable to that of alcohol. These, it is suggested, may be aerated and made endurable by various additions. Tea, and especially coffee, are also available and useful in these cases. For the reforming drunkard, bitter infusions may be of service in addition to the drinks already mentioned. It seems possible that some advance may be made by temperance reformers through efforts in this direction, and since, as a rule, man is better without alcohol, they should have the help of the medical profession."

REGISTRATION OF THE CAUSES OF DISEASE.—In his address before the Sanitary Congress at Croydon, Dr. Alfred Carpenter said:—"The registration of deaths in its present form is of no scientific value; and, except the inference which may be drawn from the total number of deaths as compared with those which are pro-

duced by zymotic causes, is useless for scientific purposes. It will be observed that deaths registered as caused by pneumonia may have had an origin in some constitutional condition of the system, which, if it were tabulated, might give valuable information. The table as at present constituted places deaths which have had a similar origin in every part of the list. I would suggest, as a necessary alteration of the law regarding registration of deaths, that the certificate which details the cause should be transmitted direct to the registrar; that it should be a confidential document, the nature of which the registrar should be prohibited from disclosing; and that it should be the property of the State alone. I make this suggestion because a large portion of the deaths which now arise are due to causes which are not, and cannot be, registered. I especially refer to those which have had a syphilitic origin, or which have been caused by continuous indulgence in intoxicating drinks. A very large portion of the diseases which affect particular organs, and in which the first starting-point is a kind of fatty degeneration of tissue, have their origin in the habitual use of intoxicating liquors. Head, heart, liver, kidney, lung, are all subject to this change, and the consequences are diffused over the whole list. The Registrar-General's returns, as at present constituted, give but little real insight into the habits of the people." At the last Social Science Congress, after a paper had been read by Dr. Norman Kerr, the department passed a resolution, moved by Dr. Hardwicke, recommending the Council to memorialise the Government—"To take steps to secure in the registration of deaths a greater amount of accuracy as to the general and proximate cause of death, especially as far as the consumption of alcohol is a factor in the mortality of the country."

THE
MEDICAL TEMPERANCE JOURNAL.

April, 1880.

Original Contributions.

A THEOLOGICAL VIEW OF MEDICAL ABSTINENCE.*

THE relations between the three learned professions are frequently obscured, and the harmony which ought ever to characterise the legitimate aim and object of law, of medicine, and of divinity, are frequently disturbed by the superciliousness of the first and the last of this cultured trio. Lawyers and judges assert the superiority of their intellect and judgment over the corresponding faculties possessed by medical men, in the contempt with which they treat the deliberate opinion of the most skilful and experienced alienist physicians when the insanity of a client or a criminal is in question. The latest instance that has come under our notice, of a confidence in their ability to criticise and pronounce judgment on a purely medical subject and on the deliverance of medical experts thereon, on the part of theologians, has been an article in the last number of the *Church Quarterly Review*, entitled "The Church of England Temperance Society." From the title one would have expected to find a disquisition on the objects and mode of operation of the influential and growing Temperance Society in connection with the Established Church, and it was with unalloyed surprise that we found ourselves confronted by a discursive dissertation on the medical aspects of total abstinence, including an energetic attempt to discredit the authority and undermine the commanding influence with which the foremost medical champion of our cause invests

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In our ignorance we had supposed that the medical profession now almost unanimously condemned the over-stimulation practised by Dr. Todd, the fatal results of whose administration of alcohol in acute disease were strikingly exhibited in the unexpected death of Mr. Hindley, M.P., and in the tremendous mortality among the Doctor's hospital patients, compared with the mortality among patients afflicted with the same diseases under the care of medical men who either gave no alcohol at all or prescribed it only in rare cases, and with the extreme of caution. The last Medical Declaration was an evidence of the mature opinion of the leaders of the great profession of medicine on the urgent need to protest against the indiscriminate and unguarded medical prescription of intoxicants.

The reviewer's caricature of the opinion of the prince of medical Temperance orators is as unfair and unfounded as most of the eccentric dicta we have been commenting on. The writer says that if we go to total abstinence orators, we will learn that not only is every drop of fluid containing alcohol unnecessary to the human body in any circumstances, but that it is sooner or later a lethal poison. We do not hesitate to say that this bald assertion is totally devoid of accuracy. Abstaining medical men speak about alcohol as they speak about opium, arsenic, or chloroform, or any other poison. No one knows absolutely, or can know absolutely, whether a minute dose of any substance is either injurious or deadly. It is impossible to demonstrate this, especially as in the present day vivisection is tabooed, though indeed at no period of the Temperance reformation has any respectable Christian moderate drinker offered himself to be vivisected immediately after drinking a glass of sherry in order that a close scientific scrutiny might determine this subtle point. What medical abstainers do say is that, in all doses sufficiently large to produce the physiological effect of the poison, alcohol is an irritant narcotic. This is the sum and substance of their argument; and the truthfulness of it is confirmed by the reviewer himself who, in an unguarded moment, goes much further in admitting that, "physiologically, it is a deadly poison even in small quantities."

Enough, however, by way of criticism. We rejoice to find that the reviewer points out the peculiar danger ever attendant on the use of intoxicating drinks, and dwells on the necessity incumbent on medical practitioners to exercise the utmost care in the prescription of alcohol, inasmuch as the remedy often becomes worse than the disease.

"It is one of the trite charges brought against medical men that they order alcoholic drinks for their patients in a careless way, and without the restraints and responsibilities which attend the prescription of other medicines. Most

anxiously have we tested this allegation out of the mouths of many witnesses, and we are reluctantly compelled to acknowledge that there is a fragment of truth in it. In all professions there are men whose modes of thought and habits or action are pre-scientific—either careless or impulsive; they meet the wishes of clients with bland responsions, or they prescribe the alcohol because it is less pharmaceutical than domestic, and it is sure to be in the cupboard or in the cellar. Every one foolishly asks the doctor, ‘What am I to drink?’ which means almost always, ‘What alcoholic stuff is best (or least harmful) for me?’ Now, imagine a poor creature at a big hospital or dispensary, seen in due turn among an endless crowd of out-patients, and is there not, at least, a chance of his getting a quick, off-hand instruction—‘Take some porter,’ or ‘Take a little gin-and-water,’ with small heed or self-questioning whether he may not be one just rescued by earnest proselytism from the tyranny of drink-poisons, and now in fearful danger of going back to his old, sad ways, because the doctor said that porter or gin would ‘do him good’? Then it cannot be denied that here and there are medical men who are intemperate, and therefore unsafe advisers on a matter in which they have advised themselves so badly.”

The reviewer’s observations on the common practice of taking brandy for the relief of pain are so apposite and forcible that we cannot do better than conclude with the following extract :—

“ Pain, as such, ought never to be treated with alcohol. In this point lies (as in ambush) one of our gravest dangers. Pain clamours for more or less immediate relief; and as alcohol (in the form of brandy) is always at hand, or can be easily obtained, its deadening or narcotic influence is naturally tried. The poisonous effects are felt plainly enough. But the essence of the false step is this: that more and more alcohol is needed for the specific purpose; that a diseased craving for it may take root, and that in the vast majority of cases the source of the pain is not struck at or removed.”



ON THE USE OF ALCOHOLIC LIQUORS IN THE MENSTRUAL PERIOD.*

By NORMAN KERR, M.D., F.L.S., *London.*

It is a common practice for women in all ranks of life to fly to intoxicating liquids for a lessening of the discomfort with which menstruation is so often accompanied in this country. The upper and middle classes affect port or sherry negus, while the “lower” classes resort principally to hot gin-and-water. Is there any need for this constant application to wines and spirits? There is not. Alcoholic beverages are quite unnecessary in the successful treatment of these female ailments; and, as the use of all such drinks is ever pregnant with serious evils, I purpose now to show

* Read to the British Medical Temperance Association on 12th February, 1880.

how to successfully cope with all such abnormal conditions without employing any intoxicating fluids.

In the pain incident to disturbed menstruation, where the flow has been checked from exposure to a sudden chill, there is congestion of the uterus itself or of the mucous membrane. To relieve this congestion a saline purgative, continued daily for a week or more, is generally effectual; but in some cases the following will be found preferable:—

R	Resinæ Podophylli	...	..	gr. $\frac{1}{2}$.
	Ex. Colocynth Co.	...	...	gr. $\frac{3}{4}$.
	Ex. Hyoscyami	...	...	gr. $\frac{3}{4}$.
Mix, and make twelve pills each with above ingredients.				
S. Two pills three times daily.				

A little aloes may be added when found desirable. If a hot sitz bath, with a diaphoretic, do not bring back the flow, it will be advisable to wait till the next period before attempting further measures. Immediately before the time when the period may be expected to set in again the patient should be directed to sit, or in some cases simply bathe the feet, in hot water for about twenty minutes. This should be repeated several nights in succession, if necessary. To the foot-bath two tablespoonfuls of mustard may be added. Sometimes it will be needful to apply a large poultice of linseed meal and mustard to the loins. At times, local depletion may be indispensable to the removal of the local congestion.

When suppression of the menses arises from chronic inflammation and thickening of the *cervix uteri*, or from some unhealthy condition or misplacement of the organ, the local mischief must be remedied before an effort is made by emmenagogues to excite the menstrual flow. If this caution be not observed the evil will only be aggravated. When the amenorrhœa arises from constitutional causes, such as the scrofulous or tubercular diathesis, general treatment must precede any attempt to stimulate the uterus and ovaries to menstrual function. Fresh air, exercise, light and nourishing diet, and tonics, are here our stronghold. In the treatment of menstrual pain from checked menstruation or from amenorrhœa alcoholic drinks have no place. Their presence is not called for; their absence is greatly to be desired.

So much for cases in which there is either temporary or continued absence of the menses. Where the periodic discharge is present, dysmenorrhœa, or painful menstruation, may be mechanical, spasmodic, or inflammatory.

I. Dysmenorrhœa from mechanical causes. The pain may arise from the narrowing, or even blocking, of the cervical canal by congenital malformation, or by tumours, or by inflammation and thickening of the lining membrane, or from flexion of the uterus obstructing the escape of the menstrual fluid. Surgical

treatment is called for in this form of dysmenorrhœa, and intoxicating liquors are quite out of the question. As a palliative, when the periodic pain is too acute to be well borne, anodynes must be resorted to.

II. Spasmodic dysmenorrhœa. When the painful menstruation is spasmodic or neuralgic, sedatives and antispasmodics are indicated. The following will be found useful:—

R	Ex. Opii	...	...	gr. $\frac{1}{4}$
	Ex. Belladonnæ	...	...	gr. $\frac{1}{6}$
	Ex. Cannabis Indicæ	...	...	gr. i.
	Ex. Conii	...	...	gr. i.

Mix, and make twelve pills each with above ingredients.

S. one pill every two hours till pain is relieved.

If a mixture be preferred, I recommend the following:—

(1)	R	Liquor. Opii Sedativ. (Battley)	...	f drss.
		Th. Hyoscyami	...	f dr.
		Chloral Hydrat.	...	gr. xxx.
		Syrup Aurantii	...	f oz. i.
		Aquam	...	ad f oz. vi.

S. A sixth part every two hours till pain is relieved.

Or,

(2)	R	Pulv. Cinnamomi Co.	...	gr. lx.
		Ex. Opii Liquidii	...	f dr. j.
		Aquam	...	ad f oz. vj.

S. A sixth part every two hours till pain is relieved.

Nothing is more serviceable than a hip-bath of hot water, containing half-an-ounce of carbonate of soda, with half-an-ounce of Tk. Opii, or the strained liquor in which six poppyheads have been allowed to simmer for twenty minutes.

Between the periods the constitutional causes of the dysmenorrhœa must be attacked by appropriate general treatment, such as careful diet, air, exercise, the removal of the dyspeptic or other contributory causes, and the exhibition of suitable tonics. Beckett's syrup of orange and quinine, and Johnson's zoedone are elegant and agreeable remedies, and the following I have found very useful:—

R	Beeberia Sulphatis	...	gr. iij.
	Acid. Phosphoric. dilut.	...	f drss.
	Th. Nucis Vomicae	...	f drss.
	Sp. Chloroform	...	f drss.
	Sp. Ammon. Aromat.	...	f drss.
	Aquam	...	ad f oz. vj. Mix.

S. A sixth part three times daily.

III. Inflammatory or congestive dysmenorrhœa may arise from an irritable state of the lining membrane, or from endometritis, ovaritis, or other inflammatory conditions. The treat-

ment ought to proceed on the same lines as the treatment of the neuralgic form.

For the immediate relief of the unbearable pain which not infrequently accompanies the mechanical, spasmodic or neuralgic, and inflammatory or congestive forms of dysmenorrhœa there is no need to employ alcoholic liquids. The treatment I have indicated will afford prompt and complete relief, and in the majority of cases effect a permanent cure.

In menorrhagia or profuse menstruation, as in all other excessive bleedings, alcoholic liquors are the most dangerous remedies we can administer. Even in collapse from the prostration induced by the most abundant flow, the risk of overstimulating the heart and the circulation is so great that in none but the most desperate condition ought intoxicating drinks ever to be employed, and then only with the extreme of caution. In collapse, as effectual stimulants, free from the dangers which ever accompany the use of alcohol, are the uterine injection of hot water, turpentine enemata, sips of hot water, or the following, which I always carry to such cases, and which acts both as a stimulant and an astringent:—

R	Ex. Ergotæ Liquid.	...	...	f dr. ij.
	Sp. Chloroform	...	...	f dr. j.
	Sp. Ammon. Aromatic	...	...	f dr. j.
	Ex. Opii Liquid	...	...	f drss.
	Aquam	...	ad	f oz. vj. Mix.

S. A tablespoonful every ten minutes till patient revives, and then every hour.

I regret that in the writings of some medical authors the “old-wife” prescription of hot gin and brandy is to be met with, and I emphatically protest against this loose and reckless recommendation of intoxicants. One of the most common causes of the female intemperance, the terrible extent of which we all so deeply deplore, is the frequent resort to the wine or spirit bottle for the relief of suffering in painful menstruation. The temporary mitigation, and sometimes the temporary abolition, of the pain can undoubtedly be attained by alcohol. This acts like a charm. The suffering girl, or weary pain-racked woman is delighted. Who would not be on obtaining such relief? A renewal of the pain calls for a repetition of the medicine, which, unfortunately, must be increased in strength the longer it is resorted to; and the more it is employed the greater is the susceptibility to, and the sooner is the return of, the painful paroxysm. A taste for drinking is acquired, and the doom of the unhappy victim is well-nigh sealed. It has been my sad lot again and again to witness this mournful tragedy to the fearful end. Let it be the welcome office of the Medical Temperance Association to assure anxious

mothers and suffering daughters that there is not the slightest necessity for running this tremendous risk. Relief from pain, and a radical cure (where that is possible) may be as easily obtained without alcohol as with it. Alcohol has no emmenagogue properties, and it is not used in countries where puberty begins at a much earlier period of life than with us. During the period, judicious management is always wanted. Where a warm foot- or hip-bath and a large cupful of hot milk, tea, coffee, or gruel, with a few hours' warmth in bed, are not effectual in relieving the pain, reliable medical advice should at once be sought. For those who imprudently delay sending for the doctor till the last moment, the following is a safe and useful preparation, not more than six doses being taken without medical sanction: A teaspoonful of liquor ammoniæ acetatis, eight drops of paregoric, and two tablespoonfuls of camphor julep, every hour; or, a teaspoonful of sweet spirits of nitre in either a wineglassful of camphor julep or a breakfast-cupful of warm gruel.



A LEAF FROM MY NOTE BOOK.

By A GENERAL PRACTITIONER.

"A. K.," a surgeon engaged, for the most part, in literary pursuits, found himself, at the age of thirty-four—although endowed with a strongly-built and well-nourished frame—the prey of certain morbid nervous symptoms, exceptionally obscure as to their cause and meaning. In these pages it is not opportune to enter into minute evidence and medical technicalities. Suffice it, that the heart, though not—as examination by the stethoscope proved—organically involved, was clearly disordered in function. Its action, at one time, was feeble and dragging; at another, full and fierce—the pulse always intermittent. A little consideration will quickly make it perceptible that this irregular circulation leaving the nervous centres without sufficient or equally-balanced support, their physical tenacity, so to speak, was thrown out of gear. Here was the mischief—here only; for it must not be forgotten that the brain-power was in no sense impaired. So far from that, the mental element was preternaturally active and sturdy. It is necessary, also, to remember that "A. K." had been, all through his past life, and under circumstances frequently adverse to sobriety (yet no abstainer), uniformly temperate in respect of stimulants. His had been truly a constitutional temperance which, whatever the inducements and the asso-

ciations, had never been invaded. Furthermore, he did not smoke. All this premised, we come to the treatment of the case. Baffled in his own attempts to cope with his malady, though from the first conjecturing its real origin, "A. K." presently sought the advice of others. At the outset of this help he found his own suspicion of the cause of his suffering more or less slurred over. The explanation vouchsafed instead was, that his avocations had most to do with the matter; he had worked too hard, he wanted rest. Now, as the initiative of the distressing symptoms in question happened to occur at a time when the mental strain had been—and for some antecedent period—singularly slack, this elucidation was by no means satisfactory. Counsel having been taken, however, it was not the business of "A. K." to discuss this detail pertinaciously, the more especially as this latter view was firmly, though blandly and smilingly, insisted upon:—"Well, well, we pass by that; my opinion, I am bound to tell you, remaining the same. You are temperate as to stimulants? I should conclude so from your appearance and general physique?" "I may certainly lay claim to being temperate; for one situated as I am, exceptionally." Hereupon follow questions and answers as to selection and quantity of stimulants. "Ah, possibly you overdo your reticence. Remember that, with pursuits such as yours, heart and brain must occasionally be fagged." "True; but as far as the brain is concerned I am fortunate in having escaped any discomfort in that quarter." "Nevertheless, the heart, at least, is much shaken, even you say to alarming faintness; and you speak of profound bodily prostration. You are, moreover, so strongly built; prostration going to the extent of interfering suddenly with the common volition of the lower limbs. Well, that, as you correctly judge, is mainly a sequel of irregular circulation. Admittedly your heart is weaker than it was; therefore your system not only demands generous nourishment, but, likewise, additional stimulus—stimulus, too, of a different nature to that you adopt. In my opinion nearly every stimulant you ordinarily take is for you objectionable. Weak cold brandy-and-water you will find the best form of 'fillip,' so to speak, under the conditions you have detailed. I should take some light French wine also; but at the threatening of your painful attacks—the faintness being assuredly not without a certain danger which should be at once combatted—take a small quantity of brandy. To one so habitually temperate I need not indicate the necessity of moderation in the use of this particular medium of alcohol." Now touching this advocacy of brandy as the choice spirit under whose flag "A. K." was, henceforth, to sail gaily, it chanced to be peculiarly obnoxious to him; obnoxious even on the narrow

ground of taste, but far more obnoxious as a superlatively dangerous tool to play with. So there was some remonstrance on the patient's part concerning it. However, in the end "A. K."—pretty confident in being able to foil brandy should brandy seek to lay hold on him too affectionately, and, moreover, somewhat desirous of making himself the subject of experiment—gave in to his medical adviser. He would try the service of brandy for a short space at least. So brandy-and-water became the order of stimulant to the comparative exclusion of others. With what result? Why, that, in less than a fortnight, "A. K." found himself fancying that he required brandy far more frequently than he had previously required any stimulants whatever. The *malaise* to which he was subject was certainly cut short on the moment by the small doses of brandy prescribed. The distressed circulation was relieved; the general anxiety shaken off; the languid extremities seemingly braced up anew. But at what cost? This:—That the morbid symptoms in question *returned at shorter intervals*, and that "A. K."—much occupied just then, writing at pressure, and compelled, as it were to have assistance on the instant—sought to smother these interrupting attacks out of sheer necessity. Nevertheless, he kept himself fairly awake to the dangers a-head. Fully conscious that brandy was now striving to become his master, "A. K." presently decided to fight out his torment for the space of forty-eight hours without it, and, further, without alcoholic stimulus of any kind. The work was hard and demanded extreme resolve and self-denial, but it was got through notwithstanding; the only set-off to the severe probation being that though the recurring symptoms were as cruel as ever, possibly more cruel, their visits were on the second day of the effort, separated by *longer intervals*.

The test which "A. K." had imposed upon himself being over, he went to his medical counsellor and detailed the circumstances:—"A most dangerous experiment; the heart might have so flagged as to reach a point of exhaustion too profound for reaction." Such was the verdict, given somewhat severely. Upon this there came a sufficiently-lengthy discussion concluding thus:—"I am glad, at least, that you have persisted in the nervine-tonic medicine I prescribed. In all probability you have to thank that for enabling you to bear the strain on your system which you thought fit to undergo. But as it is very clear that we are not together in respect of stimulants, I particularly wish you to see Mr. —, and this without, in your conversation with him, any reference to my views of the matter. To such an authority you will scarcely conceive yourself at liberty to demur. That he will endorse my judgment I feel assured." Nothing, of

course, could be fairer than this method of joining issue, and, accordingly, Mr. — was consulted. That most eminent man evidently took a keen interest in the case, into which he entered most kindly and minutely, and—*he agreed almost to the very letter with the previous dicta, both as to origin of malady and its treatment.* His only contribution to well-meaning attempts for “A. K.’s” escape from his besetting trouble was that as, hitherto, he had not indulged in tobacco, now he should; at any rate he might try how tobacco suited him. Much staggered, it must be confessed, by the most positive corroboration of former opinion on the part of one so justly distinguished as Mr. —, “A. K.” now, once again, gave himself up to that leading concerning the prudence of which he had been so dubious. As to the smoking, that, quickly enough, proved a complete failure. However moderately resorted to its only result was to increase discomfort. “A. K.’s” idiosyncrasy was evidently against tobacco, which was soon given up as a thoroughly bad business; though it must be admitted that Mr. — had not in anywise pinned his faith upon a collateral expedient which he himself characterised as “a mere chance shot at the target.” But with regard to the more accredited regulations, with regard especially to brandy-and-water as the beverage to be taken at luncheon or dinner, and, likewise, to be the stimulant adopted at the sudden crises of his morbid symptoms, “A. K.” resolved to persevere. He would be just in the matter of fair trial to the high authority he had courted. The resolution now taken was carried out, as may well be conceived, considering the eminence of the opinion involved, with greater pertinacity than before. Yet the result was again the same—a growing desire for brandy’s aid; a lessening in the duration of the intervals dividing the attacks. At length—when every just chance in its favour had been given to this smooth-tongued despot, its clutch upon the system stronger day by day—it was thrown off with contempt and loathing. And not too soon either; for when it became a frequent habit to rush into some handy public-house in order to fight down the oncoming of “A. K.’s” malady, it was surely time to halt. There remains only to be said of this case that the outcome of its great suffering was that which, from the very first, its victim had suspected. Suppressed gout—gout of an hereditary nature—had been the *fons et origo mali*. That truth once adequately recognised, the sailing into comparatively safe anchorage was not more than ordinarily difficult. There are still occasional recurrences of the trouble and the mischief, but they are few and far between and never severe. I need scarcely say that of all resources brandy is the most dire foe possible to those in whom the gouty diathesis is more or less established.

Proceedings of the British Medical Temperance Association.

THE SPRING QUARTERLY MEETING.

THE quarterly meeting of the British Medical Temperance Association was held in the rooms of the Medical Society of London, Chandos Street, Cavendish Square, on Thursday, February 12. The president, Dr. B. W. RICHARDSON, F.R.S., took the chair at four p.m. The minutes of the previous meeting having been read by the honorary secretary, J. J. Ridge,

Dr. C. J. RUSSELL read a paper on "The relation medical men sustain to the subject of total abstinence, and the influence they possess to secure its adoption," from which we give the following extracts:—

Philanthropists, Moralists, Religionists and Nephalists have all done a good work; but they are now fettered in their advance. They have been blockaded by questions, subtle, profound and technical: questions of such vital importance to the success of Nephalism, as to demand the wisdom, understanding, and disinterested consideration, of an entire profession. To it the State look for assistance and a satisfactory solution of the medical points in question. To it the Religious world looks for such aid as it is in the power of the profession alone to supply. To it Philanthropists, Moralists, and every Association established for the well-being and improvement of mankind, cast a longing eye, and in the language of Holy Writ they cry, "Come over into Macedonia and help us."

Under circumstances such as these, is a profession of such magnitude, power and influence to remain silent? Is it to go on regardless of the appeal for help from so many important sources? Is it to behold its members

sink in this ocean of shame, dishonour and death without an effort to save them? or a protest against the enormity of the evil? Are its members to lend themselves to the interests of wine and spirit merchants, and suffer their names to be emblazoned on their circulars as patrons and supporters of a trade so fatal to the best interests of society, without an expression of dissatisfaction?

I am persuaded the time has arrived for us to speak and to act, not as individuals only, but as a profession; to discharge an obligation we are under to every member of society; to correct the errors we may have fallen into, and establish ourselves as a profession on a basis so clear and sound as to give no poor unfortunate the power to point to our profession's action as the cause of his or her downfall. Let but the profession live up to the light it has on this subject, and discharge its duties honestly in the sight of God and the presence of natural law and science; let individual good and national greatness stimulate its every action, influence its judgment, guide its investigations, and determine the conclusions to which it arrives, and the declaration of British Independence will soon be signed, and with the same hand the death warrant of the drinking customs of society.

To the medical profession belong advantages, privileges and powers possessed by no other. No class of men have such opportunities for investigating more thoroughly the entire period of life, from the cradle to the grave. No body of men have made man so much their study, or should know more of his constitution, de-

velopment, and proper mode of living. No class of men should be better able to judge of the means best calculated to develop body and mind, and determine the class of surroundings necessary to health, happiness and length of days; therefore the opinion of the profession on these important points is of great moment, and must exercise a great influence in the future on all questions affecting the individual, the community and the state.

It has been my opinion for many years that too much value has been put upon alcohol as a medicine. In many instances I have been pained to observe the tenacity with which members of the profession cling to alcohol, when in my own mind I felt conscious no good could result from its prescription. It would be unwise for me to state that alcohol has no medicinal properties, that under certain circumstances it might not be prescribed with a moderate degree of success; but my experience has taught me, that the habitual use of its various compounds, together with their impurities, and the indiscriminate way it is prescribed, greatly diminishes its value as a drug, to be trusted in the hour of danger. Patients, as a rule, who are in the habit of taking alcohol in some form, are never able to do without it, even the finest and most pure water is discarded for alcohol. What is this but a disease? thus in prescribing alcohol for the cure of a disease, you set up one a thousand times more dangerous than the one for which alcohol is prescribed. For these and other reasons, I have never prescribed alcohol, except in a few of the tinctures, and I find my success quite as good, and the results of my practice infinitely more satisfactory to myself and my patients, than if I had kept them half inebriated, with an idea I was curing the disease from which they were suffering. My own views, I believe, are shared by a large number in the profession with regard to alcohol as a medicine; therefore it seems to be incumbent upon us in the interest of the profession, as well as upon moral grounds, to set ourselves at work to settle this question, by

carefully investigating the following points in various committees, to report results at some large meeting of the profession, or in any other way best suited to the end desired.

1. Alcohol as an article for daily consumption. Is it necessary or wise to take it? If not, Why?
2. Alcohol. Is it food? and should it be taken at meal time, or such other hours, as the calls of nature for nourishment demands? If not, reasons for considering it such.
3. Alcohol as a medicine. The case in which it is indicated (if any), the time it is most serviceable. The quantity. The form of prescription. When to discontinue its use.
4. Alcohol in the treatment of infants and children, up to the age of fifteen years: or should it be prescribed to children? If not, Why?
5. Alcohol, its administration in cases of habitual moderate drinking, or excessive inebriation. Has it any value as a medicine in such cases?
6. Alcohol in relation to disease, as an exciting cause, by its action in creating a predisposition to disease.
7. Alcohol as a disease producer. The diseases directly traceable to its use in moderation and excess.
8. Alcohol. What is moderation, and at what point does moderation cease and excess begin?
9. Alcohol, as an agent in causing the downfall in women, and in increasing the demoralisation of all classes of society.
10. Alcohol, its influence on longevity in moderation or excess.
11. Alcohol, its influence on the mortality of the nation.
12. Alcohol, its hereditary influence. The number of generations affected by it.
13. Alcohol, its relation to accidents.
14. Alcohol in relation to murders and criminal assaults.
15. Alcohol as a producer of pauperism.

16. Alcohol and its relation to State medicine.
17. If Alcohol is a useful and necessary medicine—Who should have charge of it? Who should prescribe it? and in what form or forms should it be administered?
18. In view of the varied opinions as to the true value of alcohol as a curative agent, the uncertainty of its action, the difficulty in determining the class of cases in which it is most serviceable, the unsatisfactory results of its administration, the habitual use of its various preparations, the possibility of finding other drugs equally serviceable in cases where alcohol is admissible, and the danger to which all are exposed who take it, in consequence of its peculiar nature, and the mortality chargeable to its use—would it not be wisdom to remove it from the list of curatives, and confine it to the preparation of those drugs made serviceable by no other solvent?

Such is the outline of investigation to which I would invite the attention of the profession.

It seems to me we are able to give an opinion on each of the points above-mentioned, an opinion that will at once free the profession from the charges justly made against it: and at the same time do much to secure for its opinions the most profound consideration.

Nothing is more certain than this, that the drinking habits of the people are doing a world of mischief, by feeding an unnatural appetite; by lowering the tone of vital forces; by predisposing the consumer to disease; by creating the disease, and handing down to posterity a craving more deadly than any fever that has ever visited this country; by weakening the power of the profession to successfully treat many diseases; by lowering the moral tone of the profession, so that medical men fear to express their honest convictions as it regards alcohol, lest they should give offence to some lover of his glass; by deceiving the profession in the dis-

charge of arduous duties, and thwarting every effort by secret drinking, in opposition to instruction and prescription; by paralysing the finer feelings, and exciting the animal composition of man's nature. All these and more are from a medical point of view, and demand our immediate and careful attention.

Dr. NORMAN S. KERR then read a paper, which is given entire in the department devoted to Original Contributions.

In the discussion which ensued, Dr. DRYSDALE said that all present must have had doubts about advising young females to take alcohol as a medicine, and he had frequently had to remonstrate with them on this point. The practice was almost universal here. He regretted that many prescribe alcohol in such cases because the family of the patient use it every day; but there could be no doubt that we ought to set our faces firmly against giving alcohol for such a reason. He considered also that the personal practice of medical men was of essential moment; he would have had little hope of the success of a French temperance society simply because the entire faculty there took alcohol. He thought it would be best to keep the medical and theological aspects of the temperance question entirely separate.

Mr. CARSTEN HOLTHOUSE stated that he came as a visitor, and not as an out-and-out teetotaler. He contrasted the bleeding and antiphlogistic regimen of some forty years ago with the stimulating practice which succeeded, much to the advantage of the latter. He narrated a case of carbuncle which went from bad to worse notwithstanding the use of brandy, and seemed to be at the point of death; the man did not die however, and he believed that the freer use of brandy had in this case turned the scale. He considered that the effect of stimulants on a sick person differed from that on a healthy person. The pulse must be diminished in frequency and increased in force if alcohol is of any service. The reverse

often follows, and then harm is done. The condition of inebriation did not occur when alcohol was given in disease when it was required, and if such a condition resulted it was often an indication that convalescence had set in. He had seen cases of disease in children in which he thought that alcohol had been of service. On the other hand, he remembered that when he was attending a hospital many years ago, Dr. Latham had a ward therein, and was in the habit of giving alcohol early and in considerable quantity, while another ward was attended by a physician who rarely gave it, and he acknowledged that the cases of this latter physician appeared to do as well as those of Dr. Latham. He had himself experienced when a boy the reviving effect of a biscuit and one wineglassful of beer when exhausted by over-fatigue.

Dr. RICHARDSON said he had had at one time two old men, aged seventy-two and seventy-five, under his observation for carbuncle at one time; both cases being remarkably alike, and both being non-abstainers. But there was this difference, that the younger had a large amount of stimulants and died, while the elder obstinately refused all the entreaties of doctors and friends to take alcohol, and recovered perfectly. He greatly doubted whether the brandy given in Mr. Holthouse's case had had anything to do with the recovery.

Dr. RIDGE said that he knew a man who had had three or four attacks of carbuncle at different times, and had perfectly recovered without the use of alcohol. There were doubtless states of the system in which much alcohol could be taken with apparent impunity, as, for example, shock and collapse from wounds and injuries; but in these cases he had given hot tea or hot milk and water with equally rapid, and, he believed, safer results. It was extraordinary how the system often seemed to have the power of recovering from impending death even without artificial aid, and he attributed many of those cases, in which alcohol was thought to be the cause of recovery, to this wonderful *vis medicatrix nature*.

This tenacity of life was remarkably seen in many cases during the late Russo-Turkish War, in which the vitality and power of endurance of the abstaining Turks was a matter of common observation. The condition of shock was, moreover, not unfrequently the means whereby life was preserved, and a too-hasty removal of it was attended with much risk. He moved a vote of thanks to the readers of the papers.

Mr. F. J. GRAY said:—With regard to that part of Dr. Russell's paper, whether alcohol is necessary for those who have been taking it in excess, I am glad to state my experience that it is not. Having for some time taken gentlemen into my Home for the purpose of guiding them over the difficulty of breaking off the use of alcohol, I find after a few days they do not care about it, and their appetite soon becomes good, and they appear delighted with their condition and relief from their enthrallment, and their improved condition taking place so soon after the alcohol has been taken from them (as they get no more after entering my Home), leads me positively to say that it is not necessary for their health. With regard to what has fallen from Mr. Holthouse,—that there must be some exceptional power of revival in alcohol, as he when a boy after being so exhausted was refreshed and invigorated by a small glass of beer,—I was led at one time to believe that power was alone confined to alcohol, as when most fatigued by gardening I used to fly to some stout to refresh and enable me to carry on; but I find that after getting much fatigued, which I have done unwisely at cricket (as I have chronic Bright's disease), I am refreshed and invigorated at once after drinking half a pint of milk; and I may add that four quarts of this latter beverage has been my daily diet with but scarcely any solid food for six years on account of my disease. I may here add that I had some difficulty in convincing my wife that it was not necessary to drink stout during pregnancy and suckling (which so many women are led to believe); but she finds herself much

better without it, and although she never had more than a pint and a half of stout per day, she has borne her children and suckled them with much more comfort on milk diet. She also had frequent attacks of bronchitis; since she has left off alcohol, even in this small quantity per diem, which is now several years, she has not, although the last two winters have been such bad seasons for this complaint, had an attack. I beg to second the vote of thanks.

Dr. RICHARDSON confirmed the value of hot drinks as stimulants, and of milk as a refreshing food under circumstances of fatigue and exhaustion such as Mr. Holthouse had referred to; its immediate effect was just as good as that of alcoholic stimulants, and its after effect better. He also pointed out that recovery from impending death was not unfrequently the result of the first stage of death; relaxation of blood-vessels and organic muscular fibre occurred *in extremis*, and when spasm was the cause of the change this spasm relaxed and the patient speedily revived; as an illustration of this he referred to some cases of asthma, in which this sequence of events was seen to occur.

In acknowledging the vote of thanks, Dr. RUSSELL referred to Dr. Drysdale's remarks, and said:—Whether it be called theology or any other name, we have the Bible to thank for much of the knowledge we possess of the wine question, and must ever produce it as a witness against the drinking customs of society, and as a work of science and a teacher of true morality and national prosperity. The introductory remarks of Mr. Holthouse open a wide field for consideration. He tells us he is not an abstainer, and does not go beyond the bounds of reason, as he reasons. This familiarity with and knowledge of alcohol seem to have assisted him in arriving at the conclusions he has with regard to alcohol as a medicine. He informs us that bleeding and purging have yielded to a more reasonable and scientific mode of treatment. In this I heartily agree with him, and many of us go a step

beyond and affirm that we have made a further advance, and find that the non-alcoholic treatment of disease, and the non-use of alcoholics, is more conducive to health, long life, and happiness; and that better cures are effected in a shorter space of time, and with much less cost to the patient and the community. He further states he has tried alcohol and knows the results: this is practical knowledge. Now we have tried the *non*-alcoholic treatment and know the results. Many of us have had ample opportunity of seeing the alcoholic treatment of disease: thus having seen, practised, and beheld the results of our treatment, we have the best grounds upon which to form our opinions: therefore we speak of that which we know, and testify of what we have seen. If Mr. Holthouse were to become an abstainer, and treat disease without alcohol as long as he has used alcohol in moderation, and treat his patients in the same way, I am inclined to think he will be as reluctant to return to the alcoholic treatment and moderate drinking as he would now be to return to bleeding and purging as of old.

Dr. NORMAN KERR, in reply, said there was no criticism for him to answer. Mr. Holthouse had shown, from the narration of several interesting cases, that the capacity to get drunk was a symptom of health. There was considerable truth in this proposition, there being "the law of tolerance" in disease, whereby doses of poisonous remedies large enough to destroy life in a healthy subject, were borne with apparent impunity in abnormal diseased conditions. He (Dr. Kerr), though he practically pursued the non-alcoholic treatment, rarely ordering even minute doses of alcohol, was not prepared in the present state of their knowledge to withdraw brandy from the pharmacopœia. There were circumstances in which he believed the best remedy at present known to medicine was an alcoholic liquor. He, for example, had seen old brandy and whisky retained where pure alcohol-and-water had been rejected. The Medical Temperance Association had nothing to do with the question of

alcohol as a medicine, but they ought
all to prescribe alcoholic liquids with
a sparing hand and with the extreme
of caution. The best restorative he
knew for shock and collapse was, for
an adult, fifteen to thirty grains of

compound cinnamon powder in a
wineglassful of hot water. This was
a pleasant aromatic warming medi-
cament, and he knew patients who
liked it exceedingly, and called it
“temperance brandy.”

NEW MEMBERS.

Dr. Armitage	.	.	.	.	.	London.
E. H. Byrne, Esq.	.	.	.	.	.	Dublin.
Dr. Crespi	.	.	.	.	.	Lundy Island.
Dr. Davies	.	.	.	.	.	Clun.
Dr. Elliot	.	.	.	.	.	Liverpool.
Dr. Gell	.	.	.	.	.	London.
W. Pearse, Esq.	.	.	.	.	.	Plymouth.
Dr. Penny	.	.	.	.	.	Leicester.
Dr. Skene	.	.	.	.	.	Dewsbury.
Dr. Williamson	.	.	.	.	.	Wakefield.

NEW ASSOCIATES.

J. Given, Esq.	.	.	.	.	.	Mercers' Hospital.
H. H. Lankester, Esq.	.	.	.	.	.	St. Thomas's.

NOTICE.

The Annual General Meeting of the Association will be held in May;
probably on Thursday, May 27. Due notice will be given.
J. J. RIDGE, *Hon. Sec.*

Miscellaneous Communications.

DRUNKENNESS AS A DISEASE.*

By HENRY LEE NORRIS, M.D.

AN evil which has assumed such
gigantic proportions, and which is
working such devastation in our midst,
should command the attentive con-
sideration of all good citizens. It
cannot be too often or too minutely
studied, and it cannot be adequately
comprehended without viewing it from
various standpoints.

Accordingly, I propose in the fol-
lowing pages to consider Drunken-
ness as a disease—very much in the
manner in which other diseases are
presented for study; paying special
attention to the practical subject of
treatment. By comparing the mea-
sures which have been successfully
carried out in dealing with certain
other diseases, we may find sugges-
tions to guide us in the treatment of
Drunkenness, or warrant for methods
which have been already proposed.

Definition.—Drunkenness may then

* Read at a Temperance Jubilee Soirée,
Dumfries, October 6, 1879.

be defined as an acute disease, the result of a specific poison, characterised by attacks of temporary insanity, by progressive impairment of the tissues and organs of the body, tending to become chronic, and ultimately to destroy the patient, body and soul.

Cause.—Unlike many diseases, the cause is perfectly well known. The poison is alcohol, which is introduced into the system under various forms—as in wine, malt liquors and ardent spirits—which differ only in the proportion of alcohol which they contain.

Susceptibility.—Universal. It is well known that if a hundred men are equally exposed to an infectious disease, such as scarlatina or typhus fever, some will become infected with the disease, and a certain number will escape. They are said to be insusceptible of the action of the poison. It is not so with drunkenness. Every one is susceptible of the action of alcohol. Every man, woman, or beast who takes a sufficient dose of this poison will inevitably become drunk. Moreover, in many infectious diseases one attack protects the system from any further seizure by the same disease; the patient becomes insusceptible of the action of the poison. In drunkenness the reverse is the case; here one attack very commonly leads to another and another. The more frequently a man has been drunk, the greater the probability that he will be drunk again. No poison is more certain in its action than alcohol. Many diseases are confined to a single locality or zone; alcohol is everywhere equally potent to rob man of his reason and prostrate him in the dust.

Prevalence.—Drunkenness has existed from the most remote antiquity. Patriarchs, priests, kings, philosophers, and statesmen have been numbered among its victims, from the time of Noah to the present day. The great Macedonian conqueror, who wept for more worlds to subdue, was vanquished and destroyed by a flagon of wine. To-day it prevails in every known region of the globe—in the palace and in the hovel; it is found

rioting in the slums and alleys of our towns, and lurking in the boudoirs of gentle, high-born dames. No class, however exalted, no calling, however sacred, is exempt from the ravages of this all pervading pestilence. Commerce and civilisation, which have done so much to elevate the fallen human race, and to banish tyranny and superstition, have hitherto rather promoted the extension of drunkenness, and thus in great measure neutralised their efforts for the improvement of mankind. Traders and explorers have carried this noxious poison to the extreme limits of the known world, using it as their passport to favour and success, and too often as their most destructive agent for compassing the ruin of their savage brethren.

Symptoms.—It is quite unnecessary that I should describe the symptoms and course of a disease with which all are only too familiar. Let us pass on at once to consider the

Effects of Drunkenness: First, on an Individual; secondly, on a Community.

I.—ITS EFFECTS ON AN INDIVIDUAL.

Alcohol is destructive of all living tissues. It would exert its baneful effects much more rapidly but for the wonderful faculty possessed by our bodies of getting rid of noxious agents. Such is nature's abhorrence of alcohol, that when it is introduced into the circulation it is cast out again as speedily as possible by means of various excreting organs, especially the liver and kidneys. But these friendly organs have to pay dearly for the exercise of their beneficent functions. They are the first to suffer impairment. They become less and less able to do their duty; alcohol is less perfectly expelled from the system, and is free to exert its injurious effects upon all the tissues of the body, which become progressively depraved, unable to throw off comparatively slight ailments, and the patient succumbs to an attack which a healthy system would easily resist, if he is not carried off in a paroxysm of acute mania or delirium tremens. But the most disastrous effects of al-

cohol are upon the brain, the seat of all the higher faculties which distinguish man from the brute creation. Alcohol is a powerful stimulant to the brain. It produces, first, exhilaration; then, with increasing doses, insanity in its various forms (or madness); finally, complete insensibility or stupor, when the patient is said to be "dead drunk." The most familiar and most important of these stages is that of alcoholic madness; for it is in this condition that crimes are committed, which bring the patient under the clutches of the law. The peculiar feature of drunken madness is that it has no legal existence: a drunkard is held responsible and duly punished for acts which are not visited with the same penalties upon other maniacs.

Besides inducing paroxysms of insanity, alcohol exerts a more chronic deleterious effect upon the mind. Drunkenness enfeebles the will and depraves the moral nature. A drunkard becomes less and less able to resist temptations to indulge his fatal propensity. He is in fact the victim of a veritable disease. His brain is no longer a healthy brain; it receives perverted impressions, and generates perverted impulses. What was originally an acquired appetite has become an intense craving for drink, which his enfeebled will is not able to resist. Surrounded as he is by temptations on every side, his condition is well-nigh hopeless. Tormented by remorse in his sober moments, and often by severe physical sufferings, he knows that temporary relief is afforded by a fresh resort to the poison; and day by day he forges around himself a chain which at last no power on earth can break. Seldom, indeed, is there deliverance for him until he sinks into his dishonoured grave. His further destiny we need not trace.

II.—ITS EFFECTS ON A COMMUNITY.

Drunkenness in this Christian land fills the prisons with criminals, the asylums with lunatics, the infirmaries with broken-down invalids, and the workhouses with paupers. It breaks up homes, and fills them with misery and want. The habit of drinking

alcohol calls into existence a most unfortunate class of tradesmen, who fall victims, in immense numbers, to the poison they dispense. It diverts annually £140,000,000 from the channels of legitimate trade to an end infinitely worse than useless; it converts into criminals and ruffians many thousands of our citizens who would be useful members of society but for drink; and it absolutely destroys others in vast numbers, variously estimated from 20,000 to many times that amount.

In some other countries, and among other races, the results of drunkenness have been more rapid, if not more disastrous. A single example may suffice. Two hundred years ago, that portion of the American continent which is bounded on the west by the Mississippi, and on the north by the St. Lawrence, comprising over a million square miles, was peopled with a race of men of magnificent physique and hardy habits, erroneously called Indians. They were possessed of probably the richest soil in the world; but, being unconquerably averse to the arts of civilisation, they were forced to give place to the more intelligent European settler. The white man came with guns and brandy; gradually they receded before him; and at the present day, in the whole of that region (equal in extent to the European continent without Russia) not a single member of the aboriginal race is to be found domiciled. The scanty remnants of a few tribes still hunt bison and spear salmon in the far west, but nearly all have been exterminated, not by the gunpowder, but by the "fire-water" of the white man.

TREATMENT.

According to the usual plan, let us consider treatment under the head of preventive and curative measures, taking the latter first, since they are most readily disposed of.

Curative.—In the early stages of a drunkard's career, he can be completely cured if the infecting poison is entirely withheld. After the organs and tissues have become permanently impaired, it is not possible for them to regain their

original soundness. Still the work of destruction may be arrested, and the paroxysms of alcohol insanity, which make the victim of them a useless and dangerous member of society, will be prevented, if he can be induced to abstain rigidly from alcohol in every form and shape. It is almost needless to say that, for the drunkard, the *only* cure is Total Abstinence. His degenerated brain, enfeebled will, and perverted appetites, entirely unfit him to exercise the self-control which advocates of moderate drinking admit to be necessary in order to indulge with safety in alcoholic beverages. The essential, vital part of the curative treatment of drunkenness, is *Total Abstinence*. Various drugs have been proposed from time to time which are said to assist the system in recovering from the morbid craving; but their use has not been attended with anything like uniform success. All or any will be absolutely useless unless the essential of abstinence from alcohol is enforced.

Preventive.—The one certain preventive of drunkenness, and the only one, is *total abstinence* from intoxicating liquors. The experience of forty centuries amply proves that drinking habits never prevail without drunkenness. It is certain that out of a given number of persons who use alcohol, a certain proportion will get drunk, and it is just as certain that if no one would use alcohol no one would get drunk. During the past fifty years temperance reformers have succeeded in preventing a vast amount of individual drunkenness, by persuading a goodly number of persons to ensure themselves absolutely against it, by adopting the radical measure—so called because it goes to the root of the matter—of total abstinence. But there is a large majority of the people who are not yet persuaded to become total abstainers, and it is not probable that the whole nation will be convinced of the desirability of the practice for a considerable time to come. If then we cannot hope to stamp out the disease altogether, is there anything that we can do to limit its extent, or to protect the com-

munity from its ravages? It may be as well to consider for a few moments, in this connection, what steps are taken, with general approval, in dealing with some other diseases, that we may profit by the example of those who are endeavouring to promote public health generally.

Physicians now-a-days are not content with treating individual cases of disease—their efforts are directed also to investigating the causes of disease on a large scale, and to removing them as far as practicable. They see that a great deal of disease results from ignorance; so they endeavour to instruct the people in matters of health. Popular books and tracts are issued in great numbers with the object of informing the ignorant how to preserve their health. But their efforts do not stop with instruction. Mankind is apathetic and selfish, so the guardians of public health do not hesitate to invoke the aid of the law to *enforce* sanitary measures which affect the public weal, and they have done so with considerable success. It is known that bad air and bad water are fruitful sources of disease; so manufacturers are restrained by law from polluting the atmosphere and rivers of our towns with noxious products of their factories. It has been ascertained that dirt and overcrowding are conditions which generate and spread fevers, cholera, &c. Consequently citizens are not allowed to deposit filth and garbage where it may suit their convenience. Further, upon the recommendation of the medical profession, the Parliament of Great Britain, in order to limit and, if possible, stamp out a single disease, did not hesitate to pass a law compelling every child born within the realm to undergo the process of vaccination. And these sanitary laws are stringently enforced, in spite of their obvious interference with the “liberty of the subject” and the profits of individuals. The principle has been established that the interests of no individual or class are to stand in the way of measures designed to promote the public health.

Let us apply the rule to the disease

under consideration at present. Let us consider some of the conditions which tend to produce drunkenness, and see whether they are capable of removal.

We find that here too a prime factor is ignorance. The erroneous opinion very generally prevails that alcohol in small doses is beneficial, and even necessary. The idea pervades all ranks—from the labourer who thinks he cannot work without his beer, to the high-born lady who fancies that her delicate system requires to be “supported” by a generous allowance of good wine. Alcohol, too, is the universal popular remedy for every known ailment. These ideas, though widely prevalent, are altogether erroneous. Alcohol is never beneficial to a person in health, and in disease it is a very unsafe remedy in the hands of any but an enlightened physician. If anyone doubts the truth of these assertions let him read the evidence given before the House of Lords’ Committee by the leading members of the medical profession. The matter is conclusively settled there. All temperance reformers should exert themselves to correct the popular error on these points.

Ignorance confronts us too as an opponent in other ways. There are very many who care nothing about the utility of alcohol in health or in disease, who use it simply for entertainment. It has been asserted that the British people are lamentably deficient in the art of amusement. They do not know how to enjoy a holiday or to exercise hospitality without beer or whisky. They must be taught a more excellent way. Good results in this direction may be expected from coffee taverns, temperance clubs, and similar institutions which are already attracting public attention and support.

But, alas! it is only a minority of those addicted to alcohol whom we can influence by an appeal to the reason. Man’s appetites are strong. Unless he has learned to control them, they will control him. For many we must try to do more than advise and instruct. If we find them beset by temptations which they cannot resist,

surely it is our duty to attempt to remove the temptation. It does not require very much sagacity to discover that public-houses are in some way connected with drunkenness; where spirit shops abound drunkenness prevails, and where spirit shops are not to be found drunkenness is not prominent. The natural conclusion to some minds is that the public-houses give rise to the drunkenness, but others assert that it is the drunkenness that causes the public-houses. We need not stop to argue the point just now. For at least no one will dispute that the undue multiplication of public-houses favours the spread of drunkenness. And does anyone doubt that the number of these establishments is very much greater than it ought to be? The public-houses for the sale of liquor by retail in the city of London alone would, if placed side by side, form a street thirty-three miles in length, having houses on both sides, or sixty-six miles of gin shops! There is no reason to believe that London is better or worse supplied than the other cities and towns of great Britain.

It is clear that the licensing system which has permitted such a number to exist has failed to do its duty; is no longer worthy of confidence; and ought to be replaced by more efficient legislation. Those temperance reformers who wish to call in the aid of the law to deal with the liquor traffic, in order to reduce the temptations to drunkenness, are not demanding the adoption of a new principle. The law has been dealing with the question, but in a totally inadequate manner. What is desired is only that a bad law, which has proved a failure, should give place to a law which offers a prospect of more satisfactory results.

But while all temperance reformers are agreed as to the urgent necessity of a change in the laws, they differ considerably as to the nature of the change which they advocate. Some are disposed to go farther than others in the direction of restriction. This divergence of opinion seems likely to retard the progress of the needed legislative reform, and it is earnestly to be desired that all who hope for help

from the law will soon be able to agree upon some measure which will command such an amount of support as will ensure its success.

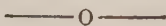
Of course we have opponents who object altogether to legislation in the matter, who have told us at least once or twice that "We can't make men sober by Act of Parliament." We may reply, "Neither can we make men healthy by Act of Parliament; but we can and do obtain beneficial sanitary laws, which undoubtedly diminish the spread of disease; so also we believe we can by law diminish drunkenness, and we mean to try."

But legislation ought not to be our goal. It is only one means to an end, and when we have obtained all that the law can do for us towards the limitation of drunkenness, much will remain to be done still. The condition of those favoured parts of the world in which laws prohibiting the sale of intoxicating liquors are in operation, proves that the rigid enforcement of such laws, although it does much to diminish drunkenness, cannot stamp it out altogether.

Our efforts, therefore, must not be directed solely to diminishing temptation from without; we must not relax our endeavours to fortify our brethren to resist temptation from within. Here is unlimited scope for individual effort; and the most promising field is, I think, among the young. It is by means of our Bands of Hope and other juvenile temperance societies that we may expect to exert the most

powerful influence upon the morals of the next generation. Youth is the season in which habits are formed. If we can get the youth of Great Britain trained to exercise self-denial and self-control, we shall accomplish more towards the final suppression of drunkenness than any Act of Parliament can do for us. The task is an arduous one no doubt; but the children of the land are much more accessible now than formerly, thanks to the efforts of our School Boards, and it is matter of much consequence that temperance opinion should be strongly represented in these Boards.

In this year of jubilee, although we are confronted by such a fearful array of drunkards and drunkard-makers that the triumph of our cause seems still distant, there is much to be noted of an encouraging nature. The crusade which was first preached fifty years ago is prosecuted with unabated vigour. Our army is being largely reinforced from unexpected quarters. Ministers and physicians, during the past few years, have been flocking by hundreds to the temperance standard. Our forces must be still better organised, so that our united efforts may be directed towards specific objects. Every stronghold of the enemy—ignorance, self-indulgence, apathy, the enormous and strongly-entrenched liquor traffic—all must be assaulted again and again until they fall; until our brethren are delivered from their bondage, and the curse is banished from the land.



THE STRUCTURES OF THE BRAIN AND THE EFFECTS OF ALCOHOL UPON THEM.

By RINGROSE ATKINS, M.A., M.D., *Cork.*

As one of the means by which we may hope to check intemperance, I believe that the diffusion of a popular knowledge of the structure of our bodily tissues and organs, and of the deleterious influence of alcohol there-

on, must hold an important place. Accordingly, in the following article, I shall endeavour to present a simple picture, in broad outline, of the different structures which build up the brain, and to point out how the exces-

sive use of alcohol so mars those finely organised structures as to interfere with the proper performance of their functions, and finally to destroy their activity.

1. The brain and spinal cord together form the central nervous system in man and the vertebrated animals, and from them proceed those nerves which supply the various organs and groups of muscles. The brain, as a whole, fills up the entire cavity of the head, being enclosed within and protected by its bony case, the skull; its upper surface corresponding to the top of the head is somewhat dome-shaped, while below where it lies at the base of the skull it is flattened. It consists of a solid firm mass, weighing on an average from 44 to 49 ozs., and it is made up of two halves or *hemispheres*, partly separated by a deep fissure, running in a direction corresponding to a line drawn from the forehead to the poll, but so connected together below this fissure that each half is in intimate union with its fellow, thus forming at the base of the organ an apparently single mass. Each of these hemispheres of the brain presides over the *motions* and sensations of the *opposite* side of the body, the left half of the brain over the right side of the body, and the right half over the left side. Their surfaces are arranged in a series of folds or *convolutions* which may be compared in appearance to the irregularities on a walnut when the shell is removed. These convolutions are set in regular order, and are believed to be endowed with separate and special functions. The brain is enclosed, as it lies within the skull, by certain coverings or *membranes*; the outer of these is called the *Dura Mater*, or tough membrane, from its dense and resisting structure; it loosely surrounds and protects the organ from injury, and serves to attach it to the skull at several points. Within it is a much finer, more delicately formed, and transparent membrane, designated, from these peculiarities, the *Pia Mater*; it closely invests the convolutions on the surface of the organ, dipping down into the divisions, or

sulci as they are called, between each convolution, and also penetrating into the centre of the organ by many fine apertures. Some idea of the conformation of the convolutions, which are the most important and distinctive characteristics of the human brain, as distinguished from that of any of the lower animals—as also of the relations which the enveloping membranes bear to them—may be obtained by placing the fingers of one of the hands close together; the fingers will represent the brain-folds or convolutions, while the divisions between them stand for the *sulci*. If a glove be now drawn on the hand placed as before, the latter represents the manner in which the *Pia Mater* is applied to the surface of the convolutions; while if over this a fingerless mitten be placed, concealing the fingers, the relation of the *Dura Mater* is roughly simulated. The *Dura Mater* conceals the convolutions covered by the *Pia Mater*, as the mitten conceals the fingers covered by the glove, while the latter closely surrounds the fingers as the *Pia Mater* does the convolutions. These membranes of the brain contain, running through them, a vast network of blood-vessels; those in the *Dura Mater* carrying blue or *venous* blood from the brain to the heart and lungs, to be there renewed, and restored to the red or arterial condition in its passage through the latter by the action on it of the inspired air, subsequent to which it is borne back to the brain by the vessels in the *Pia Mater*. The latter are much more numerous and minute than those in the *Dura Mater*, and, curving and passing in every direction, present a very beautiful appearance when looked at through the microscope, which, in consequence of their minuteness, is required to bring them into view. On these beautiful and delicate blood-vessels the injurious effects of alcohol first become apparent in the manner I shall presently point out. From the *Pia Mater* great numbers of little vessels pierce the substance of the brain lying beneath it, running in channels and supplying every portion

of its structure with an abundant flow of blood, which affords it nutrition, and thus keeps up its healthy action. Anything, therefore, which would interfere with this all-important blood supply must be highly injurious to the health of the organ. Each of these little blood vessels on entering the substance of the brain, runs down straight into it, and then divides into smaller, and these again into still smaller branches, like twigs of a tree, until they become so minute and intricate as to be smaller than hairs, and they are hence called *capillaries* or *hair-like* vessels. The walls or tubes of which these little vessels are made are highly elastic, being capable of expanding at one time, and thus allowing a larger quantity of blood to pass to the brain, and of contracting at another, the supply being thus diminished; the former condition occurring in health, when the mind is very busy and the thoughts active; the latter taking place during the periods of repose, the blood supply being at its lowest during sleep. This natural endowment of expansion and contraction, which is due to the influence of the most minute little nerve fibres, which traverse the walls of the vessels, is largely increased, and to an unnatural extent, under the irritating influence of alcohol. So much, then, for the blood-supplying structures of the brain. If, now, any portion of the hemispheres be cut through, and the surface so cut be examined, the substance of the brain will be seen with the unaided eye to consist of two differently-coloured materials; the surface of the organ that is formed by the convolutions consisting of a thin layer of greyish hue, spread over its whole area like the rind of a fruit, and from this resemblance, the term *cortex* (bark) has been applied to it, or, from its colour, it is called the "grey matter," in contradistinction to the white matter below it, which forms the second material, and of which the greater mass of the organ is composed. This white matter, from its position within the cortex, is likened to the pulp of a fruit, and hence has been called the medullary portion. Of these two the

cortex is the most important, as it is made up of the structures from which the highest functions of the brain are believed to originate. By being spread out over the ridges and furrows of the convolutions, its superficial area is largely increased, for, if it could be peeled or stripped off uninjured, and then blown out like a balloon, and the ridges thus obliterated, it would be found to occupy a very much greater space than it now does overlying the convolutions. From this consideration it is at once perceived that one of the chief uses of these convolutions is to thus increase the superficial area of the grey matter, to accommodate, as it were, a larger quantity in a comparatively small space; and, as the convolutions are more numerous in man than in any other member of the animal creation, the grey matter is in correspondingly greater quantity. Hence the functions of the brain are higher, or, reasoning in the reverse direction, the functions of the brain in man being known to be higher, and the quantity of grey matter being seen to be greater, it is argued that this is the most important structure, as it forms one of the chief differences. Certain masses of this grey matter are also collected together in the central parts of the organ, at either side of a series of cavities which are hollowed out in its midst. These central masses are called *ganglia*, and preside specially over the functions of motion and sensation, while that on the surface has to do with the powers of the mind. The hollow spaces are known as the ventricles. To the naked eye the brain substance—both grey and white—would seem to be without any structure, merely a mass of homogeneous material like so much cheese or butter, if I may use such a simile, only some faint wavy lines of a darker colour being detected running through the grey matter dividing it into layers or strata, if it be closely looked at. To examine its intimate constitution the microscope must be had recourse to, and if a very thin slice, cut perpendicularly through one of the convolutions, including both the grey and the white matter, and prepared by certain

methods, be examined, it will be found that the grey matter is in reality made up of a series of little layers superimposed on each other like the leaves of a book, and that each of these little layers contains numbers of the minute vessels of which I have made mention, together with innumerable little bodies of a rounded, triangular, oval, or pear-shaped outline, which are embedded in them, like currants in a cake. These little bodies, which are called *nerve corpuscles*, are very small, but very important; they lie in rows in each layer, the rounded ones in the upper layers, the larger and triangular shaped ones lower down, the pointed extremities of the latter looking towards the surface of the brain, the broad ends or bases looking downwards towards the white matter. From each of the three angles, if a high magnifying power of the microscope be used, little tail-like fibres are seen to project, and in the largest corpuscles these little fibres themselves divide into two or more, until the corpuscle itself and its *processes*—as these little tail-like projections are called—look something like a spider with its long and fine claws. These little processes, requiring to be magnified 200 or 300 times to be brought into view, are all important; joining together one set with another they bring all the innumerable little corpuscles into *association* with each other, and thus a network of corpuscles and processes is formed more complex than the eye could follow or the mind even conceive—a network, the integrity of which is necessary for the healthy performance of its wonderful functions. Each corpuscle contains in its midst a darker spot called the *nucleus* or centre, and this again contains another smaller spot called the *nucleolus* or centre of the centre. These nerve corpuscles and blood-vessels are embedded in and everywhere surrounded by a delicately fine substance which serves the purpose of a packing material, as it were, which is called the *neuroglia*, the intimate structure of which is, however, too complicated to be dealt with in such a sketch as this. So much then for the grey matter

consisting of its *blood-vessels*, *nerve corpuscles*, and *neuroglia*. Below it is the white matter consisting entirely of vast numbers of little rods or nerve fibres, running close together like the strands of wire in a telegraph cable, and surrounded and supported by *neuroglia* material, similar to that in the grey matter, but entirely destitute of nerve corpuscles, which are only found in the grey matter wherever it occurs. Where the latter joins the white matter its fibres come into connection with the processes coming from the corpuscles, and the former thus act as carriers or conductors downwards of the impulses which originate in the grey matter. Bundles of these nerve fibres collected together at the base of the brain, run down in the spinal cord and thence in the nerves which pass from it, as well as from the brain, to the different groups of muscles by which our bodies are moved. This nervous apparatus may be compared to a galvanic instrument, the grey matter representing the battery where the electricity is generated, while the nerve fibres act like the wires which convey the current to a distance, and thus transmit the telegraph message from station to station, the latter being represented by the muscles.

2. Having thus broadly sketched in outline the structures which enter into the composition of the brain, and their condition in health, let me next trace the effects of alcohol thereon, and point out how its constant or repeated presence gradually so alters their composition and appearance as to finally render them incapable of performing their several functions. Alcohol first affects the vascular network in the membranes covering the brain. Passing from the stomach into the blood, it is carried with it in the course of the circulation, and reaches the vessels of the brain; there, acting as an irritant on the minute controlling nerves of the easily disturbed vessels, these become temporarily relaxed, the tubes expand, their channels dilating, and, as a result, more blood passes through them, and so on to the brain. The result of this excessive supply of nutriment is an in-

creased functional activity, for the time being, of the highly organised nerve corpuscles, and in consequence the ideas at first flow faster, and an unnatural and excited gaiety and brilliancy are aroused, constituting the first stage of intoxication. If the supply be continued the functional activity becomes more and more increased until the thoughts become so rapid, and the fancy so excited, that the stage of delirium ensues, and then the vessels are loaded to the utmost extent with blood. Soon this excessive supply begins to have a difficulty in finding its way rapidly out of the brain, the channels become clogged with it, and the result is the fluid is not *changed*, and hence loses its nutritive qualities. Then the delicate nerve corpuscles, previously overstimulated, suffer from want, and feeling this, quickly fail—the ideas as the outcome fading as quickly as they arose before—the memory is dimmed, speech is affected, motion and sensation are interfered with, and finally stupor arrests all mental and physical action. Gradually the alcohol passes from the blood, being partly absorbed by the brain structures, which scientific research has shown to have a peculiar affinity for it, and partly excreted from the body. The blood-vessels once more resume their natural size, and for the time the normal condition is so far restored; but there remains a sense of dulness and depression which tells its tale, the fatigued brain structures refusing to supply their impulses with the same activity as before. Should this process of vascular dilatation and excessive excitation, even though it may not be carried to the stage of delirium, be repeated over and over again, after a time, longer or shorter in different individuals, permanent changes in structure will result, constituting *disease*. The covering membranes are first involved, the Dura Mater becomes thickened and marked with patches of a whitish colour, the result of deposits of inflammatory material in its tissue—deposits which have in the first instance exuded from the over-loaded blood-vessels, and which

have subsequently undergone further changes. The membrane, too, is not seldom found closely adhering to the inner surface of the skull. The Pia Mater, transparent and delicately fine in health, shares also in the mischief which is being done; it becomes opaque, dull-looking, and coarse in texture, and is frequently ascertained to be glued, as it were, to the surface of the convolutions beneath by the same kind of inflammatory material; gradually its little vessels lose their elasticity, like a piece of india-rubber over-long expanded, and becomes incapable of contracting sufficiently or at the proper time; further, they become tortuous and twisted, so that the blood can no longer freely flow through them. Their coats, or tubes, share in the thickening of the membranes, and in the end undergo such alteration in their intimate structure as to become brittle and liable to burst under any extra pressure; and if this occurs the blood flows out into the tissues around, gravely injuring them and destroying their functions, thus causing what is called *apoplexy*—a death which not seldom ends the drunkard's life. The microscope then reveals to the searcher's eye the tortuous and thickened vessels often appearing like the gnarled roots of an aged oak, while the channel through which the blood runs is here and there so contracted by the encroachment of the thickened walls that the stream of what ought to be nutrient fluid can barely creep along, frequently, indeed, becoming blocked altogether in its course. From these changes in the vessels—the blood-carriers to the brain structures—it will be easily understood that the latter must in turn grievously suffer, deprived gradually, it may be by a long-continued process, of their legitimate nutriment—that material which by vital forces being assimilated to their composition, restores them to energy after they have been exhausted in performing their functions; and the material with which they are supplied in insufficient quantity being itself vitiated by alcohol, they slowly waste away—*degenerate*, as it is said; the little processes by which they are

united to each other break off, and finally disappear, melting away, as it were, and the body of the corpuscle remains either shrivelled up or merely looking like a little heap of granules when examined through the microscope—very different objects to the spider-like bodies seen in health, with their long, branching processes creeping out from them; or, in earlier stages, they may appear of a yellowish colour, and advancing towards this destroyed condition. When this occurs, the various groups of corpuscles are *dissociated*, and lose that intimate union which, as I have already said, is so all-important for the healthy performance of their functions. In addition to these finer structural alterations, the entire brain becomes denser and harder by the action of the alcohol upon it, which it has imbibed from the vessels. In certain minute spots, where the blood supply has been entirely cut off on account of the inability of the vessels to pass it on, the opposite condition to this prevails, the tissue there giving way altogether, and becoming softened and disintegrated. As the result of all these *diseased* conditions, the mental faculties and moral nature become sadly altered for the worse; geniality and good temper give place, by reason of the recurring brain irritation, to irritability

and moroseness; the powers of the intellect and of the will are weakened, and the finer emotions blunted; soon as degeneration ensues, the memory begins to fail, and all the attributes of the mind slowly fade away. At the same time, the physical functions of the brain structures, the powers of motion and sensation, are affected; the nerve fibres of which I have spoken, broken and disconnected, no longer allow the mandates of the will to be flashed with lightning-like rapidity to the extremities of the body, and hence result the slow and feeble movements and the tottering gait which those who have to deal with such cases so frequently recognise. Entire paralysis of mind and body sometimes completes this terrible picture—the picture of a ruin brought about, in the first instance at any rate, by the ruined one's own doing—a slow, though none the less certain, suicide. It, therefore, urgently behoves those who are brought into daily contact with such conditions to use all the means they can to snatch the destroying agent from the hands of those who would, perhaps in ignorance, thus destroy themselves, and so endeavour to diminish a preventible cause of death, which is now working such havoc in our land.—*Church of Ireland Temperance Visitor.*



THE DIETETIC AND MEDICAL USE OF ALCOHOLIC LIQUORS.

At a *Conversazione* of the Scottish Temperance League held in the Queen's Rooms, Glasgow, on Monday, 23rd February, Dr. NEIL CARMICHAEL read a paper on "The Position of Medical Men in Relation to the Temperance Cause, with Special Reference to the Dietetic and Medical Use of Alcoholic Liquors," in which he said—That the medical aspects of the temperance question equal in importance its social or its religious aspects we are not entitled to assert. What the

relative values of these special points of view may be matters little, when they all, as they assuredly do, reveal to view the same picture of a plague-stricken people, and the same salutary methods of prevention and cure. The medical aspects of the question are of importance to consider, because at this point for long, and still to some extent, has been fought the battle of the necessity, the utility, the harmlessness, or the reverse of all these, of the use of alcohol in health and disease.

If it be proved that alcohol is necessary, useful, or even harmless when partaken of in quantities usually considered to be moderate, then it will be found an almost hopeless task to fight the battle of true temperance. Let us then seek to define in what manner the medical profession look upon the use of alcohol. And, first, let us clearly understand what is alcohol and what are alcoholic beverages. Pure alcohol is a chemical compound of carbon, hydrogen, and oxygen. It contains no nitrogen. It contains the same elements as fat, oil, butter, starch, and sugar, but it does not resemble these in its chemical affinities, or properties. It contains the same elements as ether and chloroform, with which it is closely related in chemical constitution and action. Alcohol is a purely artificial product, obtained only by carefully carried out chemical methods. It exists nowhere in nature. What are alcoholic beverages? They are solutions of organic matter, in which the process of fermentation has converted a portion of the starchy or saccharine ingredients into alcohol. Whisky, brandy, and gin are essentially only diluted alcohols. Wines consist of water, a little organic matter, including sugar, a little acid, a little ether, and from 8 to 25 per cent., or more, of alcohol. Beer, stout, porter, and such beverages, contain about 4 to 8 per cent. of alcohol, from 4 to 8 per cent. of extractive matter, and from about 90 per cent. of water. Such are alcoholic beverages. And now let it be noticed that these beverages are not natural productions. No animal but man partakes of them, because nature does not provide them. I do not present this fact as an argument against the use of alcohol, but simply to clear away the absurd argument so frequently adduced, that as God has provided for us such beverages we act impiously in refusing to partake of them. The transparent folly of the argument is obvious. Putrefaction is a process vastly more common in nature than alcoholic fermentation, and it is not argued that the chemical products of putrefaction, such as butyric alcohol, should be

partaken of as beverages. Whether such substances should be partaken of must be determined simply by their action upon us; if good, whether natural or artificial, they should be partaken of by us; if bad, they should be avoided. What, then, is the effect of alcohol on the human body? This we may consider with advantage in three different aspects—(1) the physiological; (2) the medical and medicinal; and (3) the hygienic or public health aspect. And in considering the physiological aspect let us first take up the question of the food value of alcohol. Food, physiologically considered, is of two kinds, tissue-forming and force-yielding. Tissue-forming foods contain nitrogen, which is an essential element in the construction of flesh and blood. Alcohol contains no nitrogen. It is therefore quite impossible that it can contribute to the formation of any tissue or organ, with the single possible exception of fat. This position is now held by all physiologists and chemists, whatever may be their individual views as to other points in the action of alcohol. It is not food in the sense in which bread, milk, fruit, and flesh are foods. These go to build up tissues, to repair waste, to re-construct the ever-changing solid and liquid tissues of the body. This point we should clearly keep before us, because it has been established beyond doubt, and because it is a fundamental point in presenting clearly any idea of the action of alcohol. No amount of alcohol can form one single cell of living tissue; no amount of it can form one single blood globule, one single muscular fibre, or one particle of nerve tissue. These points are beyond question. It is still, however, asserted by many that alcohol yields to the system energy or force, and is consequently to be considered as food like fat, starch and sugar—as combustible food or fuel. It is asserted that alcohol combines with oxygen in the system; that it is decomposed; that the chemical decomposition results in the liberation of a certain amount of force which is used in the body, and which contributes to

maintain the activity of the organism. If this is all true, undoubtedly alcohol is food. But is it all true? What are the facts? Alcohol taken into the system in quantities less than about one-and-a-half ounce in the twenty-four hours, is decomposed in the system. More than that quantity cannot be oxidised in the tissues. All in excess of this is thrown out by the excreting organs almost entirely unchanged. Does the quantity decomposed act as food in supplying force or heat? It is frequently argued that because it is decomposed it must be looked upon as food. Daily this argument is presented, but what is it worth? Is everything which is decomposed in the body, or which is oxidised in the body, to be considered as food? Verily, if it be so, we must change the common adage that "what is one man's food is another man's poison" into "what is poison for every man is food for every man." Ether, chloroform, phosphorus, prussic acid, strychnine, putrid liquids, even the filthy water of the Clyde, and worse substances than these, can, to a certain limited extent, be oxidised and decomposed in the system. Does it follow that because they are decomposed they are food? By no means. This, however, follows: if they are decomposed in the body, and at the same time produce no injurious effects on the system, they are entitled to be designated foods. If we define food to be "substances which, when taken into the system, yield to it tissue-forming elements, or liberate in it force, at the same time that they produce no deleterious effects on the functions or the structures of the body," we have a proper standard with which to measure the so-called food value of alcohol. We see at once the fallacy of assuming that because a substance is decomposed in the body it is food. The only way in which these questions can be settled is by experimental investigations. Does alcohol, partaken of in small quantities, raise the temperature of the body? does it produce heat? Investigation answers, it does not. A very short time after a little alcohol is partaken of there is a slight

flush of the minute blood-vessels of the skin, most distinctly noticed on the cheeks and in the eyes. The temperature of the surface of the body is slightly elevated. This seems like an increase of body-heat, but it is not so. The internal temperature at once begins to decline. There is simply a transference of heat from the interior to the surface, and a consequent actual loss of heat to the body. Nor does alcohol increase the cold-resisting power of the body. Altogether the reverse. The transference of heat from the interior to the exterior permits a much more rapid cooling of the body, and a consequently lessened power of resistance. This has been proved beyond question in this and other climates. But if alcohol does not produce heat, does it not stimulate? Does it not give power? To determine this point we must closely trace the action of alcohol on the functions. As we have seen, the earliest noticeable effect of alcohol is a slight flush over the surface of the body. This is due to a dilatation of the minute blood-vessels, which is caused by a paralysis of the nervous apparatus regulating their condition. The normal tone of these vessels is for the time lost, and the force of the blood-current dilates them to their utmost capacity. In this respect alcohol acts exactly like nitrite of amyl, a closely related chemical compound, though to a less extent. Following a little further, we find the control of muscular action becoming less perfect, the power of volition less decided, the control of currents of thought less certain; further we need not follow it. Do these actions at all suggest increase of power? Do they teach that alcohol stimulates? They clearly point to the fact that alcohol is not a stimulant in any true sense; that it is of the nature of a narcotic; that its action is to paralyse to the extent to which it acts. Does alcohol form fat? This is frequently asserted. The facts are—Alcoholic beverages, such as beer, porter, and ale, all of which contain sugar, seem in many cases to fatten, while alcoholic beverages, without sugar do not produce fat. If, then,

the fattening effects of these beverages are desired, the simplest method is, take the same beverages without the alcohol. Lupulin (a bitter like beer), non-intoxicating ale, unfermented wines, contain all the nutritious constituents of beer, ale, and wine. And extract of malt contains in a very concentrated form the fattening elements. But it is asserted that alcohol prevents tissue waste. What if it does? Is this desirable? The functional activity of the body requires as its most essential condition that there shall be constant tissue change, not tissue waste. Force is evolved and structure renewed only by these very tissue changes. Alcohol to some extent lessens this change,—that is it diminishes functional activity, diminishes evolution of heat and force, retards the natural renewal of tissue, and in fact, so far as it acts, paralyses. Physiologically considered, then, we may say of alcohol, 1st, that in large doses it is a poison—this all men concede; and, 2nd, that in small doses the first effects produced are those of paralysis, that it is a narcotic and not a true stimulant, and that it is not in any true sense a food. Alcohol has been long and largely used as a medicine. Is it necessary? Is it valuable in the treatment of diseased conditions? That it is not necessary is clearly evident from the facts, 1st, that in the Temperance Hospital in London the treatment of disease has been carried on for some years entirely without any form of alcohol, and with results that compare favourably with the other hospitals of the country; and, 2nd, that many private practitioners follow a similar practice with equally favourable results. It has been proved over and over again that fever can be treated, and, as a rule, better treated, without than with alcohol. But is it not in many cases of disease useful? Without doubt it is. In many cases very positive benefit can be derived from its action. Only prejudice will call this in question. But here the question arises, Are there no other agents from which, in the same circumstances, we can derive equal or greater benefit? There

certainly are. I know of no condition of disease in which agents at least as suitable as alcohol cannot be found. And considering the evil effects so frequently produced by alcohol on health and on social conditions, I think it will be admitted as desirable that, as a general rule, we should prefer the other agents. Within the last few years a comparatively new branch of medical science has been developed, viz., Hygiene or Public Health. This treats rather of masses of people than of individuals. It treats of health conditions, and of the causes of disease and death in the community. Treating as it does with large numbers it eliminates individual opinions, and accidental influences. The first or primary action of alcohol we have already briefly considered under the head of its physiological action; its secondary effects fall to be considered under the public health section. Our time tonight will not allow of more than the most hasty sketch of this subject. The diseases that follow the excessive use of alcohol are well known, and do not require to be particularised to this meeting. The disorders, the diseases, the deaths that follow the so-called moderate use of alcohol, require more careful notice. And first, we find disorders of function follow in very many cases the moderate use of alcoholic beverages. Digestion, in many cases, seems to be improved by a moderate use of alcohol. The irritating effect of the alcohol on the coats of the stomach produces an increased circulation of blood, and an increased flow of gastric juice. In consequence, digestion proceeds rapidly. If more than a very moderate quantity is partaken of, however, the alcohol actually retards the digestive process. But even in minute quantities the advantage is apparent, not real. The repeated irritation of the stomach produces a weakened condition of that organ, so that the stomach becomes less able than before to digest food without alcohol. And so the alcohol produces the condition it was intended to cure, and alcoholic dyspepsia, to a greater or lesser extent, is very apt to

ensue, followed, perhaps, by organic diseases of the stomach. Similar disorders of function, followed by organic diseases, frequently manifest themselves in the liver and kidneys. Disorders and consequent disease and degeneration of the nervous system frequently follow in the train. A diseased condition of the arteries all over the body, and particularly of those in the brain, consisting of a degeneration of the walls of those vessels, in which their elastic tissue is replaced by hard, unyielding calcareous substances, liable to crack and break under any unusual pressure on them, very often follows the ordinary use of alcoholic drinks for any very prolonged period. This is a very frequent cause of apoplexy. And, lastly, fatty disease of the heart is frequently induced by the same course. These are only a few of the diseases which might be named, and are only hastily sketched. The time at my disposal permits no more. It may seem to many of you that this picture is overdrawn, that such diseases are to be attributed not to the ordinary but to the excessive use of alcohol. That such is not the case I think a few figures will convince you. The United Kingdom Temperance and General Provident Institution is divided into two sections, the Temperance and the General. The statistics of this society for 1878 supply the following facts:—In the temperance section the usual calculations anticipated 187 claims; the actual number was only 117, that is 70 less than the number anticipated. We thus see that the deaths in this section were fully 37 *per cent.* less than the number anticipated. In the general section, which we may assume to consist of moderate drinkers, the claims anticipated were 299; the actual claims were 317—that is, 18 more than the number anticipated. The deaths in this section were therefore 5½ *per cent.* more than the number expected. This tells, with unerring certainty, as to the effect on life of the ordinary use of alcoholic drinks. But more recently an investigation has been made (referred to in an article in the *British Medical*

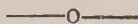
Journal for January 31) whose importance it is not possible yet fully to realise:—

“In the early part of last year, a committee of the Harveian Society was appointed by the Council of the Society for the purpose of inquiring into the subject. That committee has collected and reduced to order a first instalment of statistics respecting it. These statistics have been obtained by inviting members of the Society to enumerate, from the counterfoils of their death-certificates, the age and sex of every adult person to whose death they had certified within the last few years, distinguishing those who had died either partly or wholly from the effects of alcohol, and adding, in each of such cases, the registered cause of death and the occupation. It was considered that these materials, if accumulated on a sufficiently large scale, would afford a sure basis for calculating, not only the ratios which wholly and partially alcoholic deaths bear to the total mortality of the country, but also the proportions in which they occur in the two sexes and at different ages, as well as the occupations in which they are most frequent. The returns yielded altogether a record of 1,615 deaths, which have now been carefully classified, with the following result. Out of the 1,615 deaths, chiefly among the middle classes in London, no fewer than 188, or 11·64 *per cent.*, were partially, and 74, or 4·58 *per cent.*, wholly due to alcohol. The deaths partially due to alcohol were found to be, among men, 17·5 *per cent.* of the whole, and among women, 7·37; the deaths attributable entirely to alcohol among men, 5·3, among women 4 *per cent.* Thus, while men preponderated in both classes, the proportion of women to men in the class directly killed by alcohol was much larger than it was in the class of deaths partially caused by drink. The greatest mortality in the former class was at the ages of from forty to forty-nine; in the latter from fifty to fifty-nine. Of the wholly alcoholic deaths, no less than thirty-two were referred to disorders of the liver and digestive organs; nine

to various forms of chest-disease; seventeen in plain terms to excessive drinking, or some equivalent phrase. In the partially alcoholic class, while disease of the liver and allied organs still stood at a very high figure, the death-rate did not rise above that of phthisis, which, fatal as it was in the adult population generally, seemed slightly more fatal here. The committee believe these results will hold good when tested on a larger scale, necessary to place them beyond doubt; and the Council of the Harveian Society has resolved to issue similar inquiries to the general practitioners whose names are found in the London division of the *Medical Directory*. As the inquiry is one of very high importance it is greatly to be desired that all the practitioners appealed to by the Society will take pains to fill in their replies, and to return them with as little delay as possible."

If you apply the results obtained by this committee to the whole country, you are presented with the appalling fact that no fewer than say ten per cent. of the total deaths of adults are attributable, in whole or in part, to the use of alcoholic beverages. It cannot be asserted that this ten per cent. represents drunkards, for the deaths were due to drinkers' not drunkards' diseases. And the close agreement in figures between the results thus obtained, and those obtained from the

insurance statistics already quoted, proves to any one prepared calmly to weigh the evidence, that the influence of the ordinary use of alcohol is, from a public health point of view, very seriously injurious. But what are we to say as to the position of the medical profession in relation to this question? It need not be said that the profession is not yet of one mind on this subject. I have placed before you what I consider the advanced opinions, founded on careful experiment and observation, held by many eminent medical men; and there can be no doubt that the great body of the profession is inclining towards these views. A marked advance has been made within the last few years, as is evident by the much greater carefulness with which alcohol is prescribed, and by the fact that the majority of the medical profession are decidedly more moderate in their personal use of alcohol than society in general. A large number of them, indeed, are practically, though perhaps not professedly, abstainers. And the earnestness with which medical men as a body seek to improve the condition of public health and social well-being make it certain that, so far as they are convinced of the evil effects of the ordinary use of alcoholic beverages, their whole power will be put forward in endeavouring to restrain or remove the evil.



THE HABITUAL DRUNKARDS ACT, 1879.

At a meeting of the Social Science Association, held at their rooms, on 2nd February, Mr. Stephen S. Alford, F.R.C.S., read a paper on "The Habitual Drunkards Act of 1879; the Class of Persons for whom it is intended, and how it may be administered; with an Account of a Recent Visit to the American Inebriate Homes."

The chair was to have been taken by the Earl of Shaftesbury, but in his absence, through indisposition, Dr.

ALFRED CARPENTER, of Croydon, was asked to preside.

Mr. ALFORD attributed the passing of the Act mainly to the efforts of the "Society for Promoting Legislation for the Control and Cure of Habitual Drunkards," of which Lord Shaftesbury was president. He showed that the public had been long perplexed by the helpless condition of habitual drunkards. In 1839 Dr. R. B. Grindrod, of Great Malvern, in his prize essay,

"Bacchus," showed the great importance of restraining this helpless class, which he held would be an act of mercy. In 1855 and 1857 the Scottish Lunacy Commissioners reported on this question. Dr. A. Peddie, of Edinburgh, from 1858 to the present time, had been continually urging the necessity for legislation for the control and treatment of insane drinkers; and Sir Robert Christison, of Edinburgh, had often brought the subject forward in lectures and addresses. These had been the pioneers of the movement. The members of the British Medical Association had earnestly taken up the subject, and forced it on the public by papers read at their different meetings, by Mr. Garman, of Wednesbury; Dr. J. Russell; Dr. A. Carpenter, of Croydon; Dr. Eastwood, of Darlington; Dr. Norman Kerr; Mr. Holt-house; and by the reader of the paper himself. This Association organised an important deputation to Mr. Cross in 1875, and had had a special committee on the question since that time. The more general Society, which was instrumental in framing the Bill and securing Dr. Cameron to take charge of it, was an outcome from this committee. Dr. Forbes Winslow published a pamphlet on "Uncontrollable Drunkenness" in 1866, and Mr. Turner, a solicitor, in 1867 prepared a short Bill as an amendment of the law of lunacy, to include habitual drunkards. In 1868 Colonel Akroyd, with the assistance of the Licensing System Amendment Association, also took up the question, and assisted the late Dr. Dalrymple, M.P. for Bath, who in 1872 obtained a Committee of the House of Commons to inquire into the subject, and framed a Bill on the report of the Committee; but his premature death stopped further progress. The class intended to be benefited are persons of a susceptible nervous temperament, easily overcome by stimulants, whose nerve-power is soon used up—who, working under pressure, become exhausted, and acquire an irresistible drink-craving, from which, unaided, they cannot extricate themselves. Gross, vicious drinkers are not the class that could

often be permanently benefited by this Act. The Act is tentative, only remaining in force ten years, and is in no way compulsory. None can come under its provisions except by their own voluntary act, declared and attested before two justices of the peace. No one can be detained more than twelve months in an inebriate retreat, but during the time of their detention they must submit to the rules of the house. Provision is made for registration and regular inspection, and all retreats are to be specially licensed. Mr. Alford had visited six inebriate homes in America—one in Canada and five in the United States. There are twenty-six inebriate homes in the United States, and charters have been obtained for fourteen more. Most of the local Governments in Canada and the United States have laws recognising and authorising the control of inebriates. The chief obstacle to a more general establishment of these homes, he found, arose from the want of a recognised uniform plan of management. The one inebriate home in Canada is near Quebec, and associated with a lunatic asylum, which hindered its success, but much good had resulted. At Chicago Mr. Alford resided for three days in an inebriate home containing seventy-seven patients, with whom he associated and conversed. Many had been sent into the home having no hope or intention of recovery, but from the kind influence exerted had been restored to society. Mr. Alford saw several who had been sent in by justices, who had been restored for several years, and were most grateful, having full confidence in their permanent recovery, and power to abstain for the future from stimulants. At St. Louis a sanatorium has been very successful, especially with opium cases, which (the reader found) abounded in America. At Philadelphia in the Franklin Home, there were thirty-seven inebriates; much good work had also been done by this Institution. Mr. Alford stayed a few days with Dr. Parrish, of Burlington, New Jersey, who had devoted his life to this cause, and who gave evidence in

1872 before the Committee in the House of Commons. At the Fort Hamilton Inebriate Home, Brooklyn, New York, Mr. Alford resided eleven days. There were one hundred and sixteen patients — ninety sent by justices and twenty-six voluntary patients. This home is subsidised with fifteen per cent. on saloon licenses by the State of New York, and receives all hopeful cases committed for drunkenness and crimes which are the immediate result of drunkenness. The Rev. J. Willett, the superintendent, had had great success, especially in rescuing cases of *mania à potu* from permanent insanity; he considered forty-five such cases were saved at that home in 1878. The patients sent in by law do nearly all the work of the institution and grounds, of which there are twenty-six acres attached to the house. Voluntary patients pay; about £3,000 was received from them in 1879. Fully thirty-five per cent. of the patients recover and return to society. The Washingtonian Home, Boston, the oldest in America, had been in operation twenty-two years, chiefly under Dr. Day, its founder. Mr. Alford stayed here two days. The plan adopted was chiefly moral, little or no restraint being exercised. Fair success resulted, but more frequent relapses than in other institutions where there is a stricter supervision. In all the inebriate institutions religious influence was brought to bear, but attendance at the services was voluntary. Six months or more was found necessary for complete recuperation of the will-power. Mr. Alford then gave examples of several inebriates who had been placed against their will in inebriate institutions; but from the kind and judicious treatment received, and the lengthened period of their forced detention, they had thoroughly recovered — one was then a leading preacher in Boston. While Mr. Alford was at Fort Hamilton, a meeting was held of influential medical men and others to give him information on the subject. Various resolutions were passed, referring to the successful working of inebriate institutions under proper

management. It was considered that there were at least thirty-five per cent. satisfactory recoveries from confirmed inebriety. In conclusion, the reader of the paper said that several institutions existed in Great Britain for the care and treatment of dipsomaniacs, but their usefulness had been limited by want of proper power of control. Two exist in the south of London, for females of the lower class, at Spelthorne Sanatorium, Feltham, and the St. James' Inebriate Home, Kennington. None exist for males. A society is being formed to establish a "Dalrymple Retreat, for the Treatment of Inebriates," under the new Act, to be founded by contributions, but afterwards supported by the payments of patients. This will be at first for males, to meet the demand for such. Mr. Alford hoped the philanthropic public would come forward, and thus afford an opportunity for bringing the Act into operation. He considered £2,000 would be ample for starting such an institution.

After the paper had been read the CHAIRMAN remarked that it offered a great deal of matter for thought. The leading point in the paper which must not be lost sight of was that habitual drunkards could be cured, and the Act which had been passed gave them power to place themselves in a position in which they might be cured. But still, more than any other class, these persons were of a vacillating temperament, and hence the difficulty of subjecting them to the Act — there being no compulsory clauses. So far as they had gone, it was evident that, where private establishments were concerned, capital was not likely to be forthcoming to any extent to meet the difficulties this Act positively placed in the way of their formation; and hence the society founded for the promotion of legislation for the cure of habitual drunkards, and the committee of the British Medical Association had taken up the matter in the way that Mr. Alford had suggested; for at a meeting of the joint committees it was thought that an appeal should be made to the public to establish an institution for the cure of inebriates

in which the manager should have no pecuniary interest. He had had applications made to him over and over again by people anxious to be put under restraint, and inquiring whether there was such an establishment in which he had perfect faith, and none had been forthcoming except one or two establishments for females. Those who had established these institutions would much prefer to retain their power over their patients by means of simple kindness than by placing themselves under this Act and becoming registered. It remained to be seen whether the charitable people of this country would allow the Act to remain a dead letter, or whether they would have to wait until Parliament was wiser than it was when it passed this Act.

Mr. HOLTHOUSE said that no one had taken more interest than he had done in establishing retreats for the treatment of drunkards. He had long been convinced of the need of some legal power for their control, and he hoped that when Parliament undertook to legislate it would give them a more efficient instrument than the late one had turned out to be. They would all have seen the report of a case at the Marylebone Police-court in which a husband asked the magistrate what he could do with his intemperate wife. The magistrate said restraint could only be had at her own desire, and that she must make application to him. That was the chief difficulty in the Act, for he (the speaker) could hardly believe it possible that any person in the upper or middle ranks of life would voluntarily submit to the exposure necessitated by this Act. Many of the worst cases would not admit that they were habitual drunkards at all, and if their vagaries were brought to their recollection they would invariably attribute them to some other cause. Another difficulty lay in the management of these homes. Without conscientious and thoroughly earnest persons to superintend them there was sure to be failure, or else the institutions would be carried on for selfish gain and not for the real benefit of the patients.

The attendants one got also were not ordinarily of a trustworthy character. They would allow the patients to "take just a little in moderation," so that it became very difficult to manage a place of this kind. He hoped that some effort would be made to establish retreats of the kind spoken of, but as the Act stood he did not think any person would go into them save those whose only alternative was a prison. Let them begin in a small way, and try to make them so successful that Parliament would be induced to improve the measure. He concluded by moving—

"That to establish a home for the treatment of habitual drunkards, in which it is proposed that the managing committee shall have no pecuniary interest, appears to be the best way by means of which the Habitual Drunkards Act, 1879, is likely to be made useful. This meeting therefore recommends the society by whose means the Act was obtained to proceed with the course which they propose to undertake, and that the term 'Dalrymple Retreat' appears to be an appropriate name for the same."

Dr. HARDWICKE quite concurred in the resolution proposed, but expressed himself greatly disappointed with the Act. He hoped the metropolitan magistrates would avail themselves of these retreats when established, to send their prisoners there. He saw a great many of those who had committed suicide as the result of habitual drunkenness, and he had the opportunity of knowing the fact that this inebriate condition was a condition of disease, and that properly it should be treated medically and physically. Great benefit resulted to habitual drunkards from enforced total abstinence, as, for example, when a man was sentenced to a term of penal servitude. He hoped they would succeed in this appeal to the public, and as to the title of the retreat it was most suitable. He concluded by seconding the resolution.

Mr. SAUNDERS called attention to a recent case of dipsomania reported in the *Times* as illustrating the heredi-

tary tendency of indulgence in alcoholic excesses.

Mr. EASTMAN said unless they knew why people got drunk there was little use attempting a cure. Many ladies became dipsomaniacs, and the cause was in a number of cases that they had so little to do. He thought the best way to stop drunkenness was to permit free trade in drink.

Dr. NORMAN KERR spoke of his own experience on the other side of the Atlantic as confirming that of Mr. Alford, but believed we should succeed much better here than they did in America. In the course of his profession, two days ago he was called to see a lady occupying a high social position, who lived but two hours after his arrival. Her illness, bronchitis, was brought on by a drinking bout, and this, too, was a hereditary case. He would read only the first line of a letter he had just received—"For God's sake come at once to see me. I have nearly run my race. I am willing to be put anywhere." This was a graduate in medicine, and one who had served Her Majesty for more than twenty years, and here he wrote from a workhouse to implore him to come and do something for him. His friends had telegraphed they were coming to-morrow; what was he to do? He had seen a shipwreck and 270 people drowned, but he would rather undergo that again than undergo the ordeal of meeting this man and his friends to-morrow. If they did their duty there would be some place in which to put this man. This might be a contemptible Act, but at all events it was the affirmation of a principle, and they must make such use of it as to get it strengthened. Let them take in charge and cure some of the worst cases that the police-court agents of the Church of England Temperance Society could find, and produce therefrom such tangible evidence that the Government of the country would only be too happy to meet their wishes, viz., give them compulsory power to enable them to protect these people against themselves.

The Rev. J. H. POTTER (secretary of the Church of England Temperance

Society) said there were three agents appointed by his society to follow up the cases at the police-courts, but when they did so the great difficulty was to find a place to which to send them. That was impossible, for none were established. There were retreats for females but not for males. It was simply want of funds that kept his society from doing more. Indeed they hardly had enough to undertake the work at present in hand.

Mr. FORDHAM and Dr. WHITFORD having expressed their dissatisfaction at the law as it at present stands,

Mr. ZIERENBERG, of the Kennington Retreat, spoke of the indisposition of the public to support such institutions. Of the eighty-eight cases in his place seventy were free, and the cures were 62 per cent. There were girls in the retreat of fourteen, fifteen, and sixteen years of age, confirmed drunkards. Kindness was only the way to deal with these cases, and it was of great importance for the superintendent to be as he was—a personal abstainer. Men were far easier to reclaim than women.

The Rev. Mr. MERRICK, of the Westminster Prison for Women, adduced some powerful facts to show the hereditary character of the alcoholic disease. They had a grandmother, a mother, a daughter, and a child of that daughter all in prison at the same time through drink, with the exception, of course, of the infant. There was another family which had always had a representative in prison. Out of 20,000 women he had addressed during the last three years, not more than 100 had wished to place themselves in the asylum.

Mr. MOSELEY said they would have to be very careful about giving compulsory powers, though he was not opposed to them. He thought an order from two magistrates, with an appeal to the quarter sessions, would be sufficient. He was surprised when he first read the Act at the total absence of compulsory powers.

The resolution having been carried, the meeting was brought to a close with a vote of thanks to Dr. Carpenter for presiding.

THE RELATION OF ALCOHOL TO BAD SANITATION.*

By J. JAMES RIDGE, M.D., B.S., B.A., B.Sc.

It has been frequently alleged that bad sanitation is one of the chief causes of the intoxication which so largely prevails in this country. There can be no doubt, I think, that unsanitary conditions of life do in many cases lead men and women to resort to alcoholic liquors. Misery and grief can for a time be alleviated, pain and the cravings of hunger may be lessened, and poverty forgotten, by excessive drinking. The *malaise* which overcrowding, impure air, and uncleanness produce may be relieved by a narcotic which renders the nerves less sensible to the injurious conditions which it does not remove. But it is very easy to exaggerate. It is very difficult to realise what other people feel. We may in our luxury imagine the lives and surroundings of others to be intolerable, but we then underrate the wonderful difference which is occasioned by use and habit. The following fact will illustrate this. The Corporation of London has a considerable amount of property near Londonderry, consisting mainly of land upon which small cabins are built tenanted by farm labourers. On account of certain representations made to the Corporation, a deputation was sent to see whether these dwellings were fit for human habitation. They went over to Ireland and found the dwellings mere huts consisting simply of four walls, the floor composed of mud and other filth, small holes for windows, many being stuffed with paper and rags to prevent the entrance of any fresh air, while those which were glazed were not made to open, and were begrimed with peat smoke. There was only one apartment in each hut, where the whole family, however many in number, lived, cooked, ate, and slept. Fowls, geese, ducks, and the inevitable pig, also shared these unpleasant

quarters. In these wretched hovels human beings lived and loved. The deputies were at once convinced that other arrangements must be made, and gave orders that new, commodious, and well-ventilated cottages should be built, with all the latest improvements. They then left, feeling assured they had earned the gratitude of their poor tenants, and hoping to find a very different state of things on their next visit. Accordingly, next year, they revisited the "Dubby Holes," and were much gratified by the improved aspect of the new buildings, which were finished and partially inhabited. They asked their tenants if they liked their new homes, and several at once replied, "Well, no; they did not like them at all. Might they go back to the old ones?" "What was it they didn't like?" "Well, they were not used to go upstairs to bed, and it was cold without the pig." It was ultimately found absolutely necessary to pull down the old shanties if the new commodious cottages were to be used, and this was finally done, to the great annoyance of the peasants.

We must, therefore, conclude that insalubrious conditions are often rather liked than otherwise, and do not always drive those existing under them to the public-house.

If good sanitation were an efficient preventive of intoxication, there ought to be very little in healthy homes. But I have made inquiries among the blocks of model dwellings erected in various parts of London, and I find that, on the average, four per cent. of the adult population are notoriously addicted to the excessive use of alcohol. The tenants are, moreover, selected for admission, and the rents range from 6s. to 10s. 6d. per week, and nearly one-half per cent. are ejected in each year for disorderly drunkenness, by which the numbers are reduced. And since these four per cent. are only notorious cases, there

* A Paper read at the Sanitary Congress held at Croydon, October, 1879.

can be no question but that a higher number must be taken in order to include more doubtful and secret cases, and that besides these there are a considerable number injuring themselves, beyond cavil, without palpable drunkenness.

If good sanitary conditions prevented intoxication, we should not expect to find much among servants, with all their advantages of good food and, generally, good and healthy accommodation. I need hardly say that we are disagreeably disappointed here.

Here, then, is a cause of a vast amount of preventable and self-inflicted disease. That the employment of alcohol as a habitual beverage, other things being equal, increases the susceptibility to disease, and its total amount and duration is shown by the following facts:—(1) It has been repeatedly observed that when epidemics of such diseases as cholera and yellow fever have been prevalent, those who are known to be drunkards are much more readily attacked, and far more frequently succumb, than the general population. (2) The London Grand Division of the friendly society known as the Sons of Temperance is composed of working men of all trades save those connected with liquor. During the seven years 1871-78 there were on the average about 1,200 members. During those years there were 1,532 claims for sick pay, and the total days of sickness were 42,157. The duration of each illness was, on the average, $27\frac{3}{4}$ days, or five days of sickness for every member in each year. In contrast with this we find the rate of sickness in the Manchester Unity of Oddfellows averaging 7.7 days per member. Therefore the use of alcoholic liquors among the Oddfellows makes the total sickness half as much again. This contrast would be even greater could we separate from the returns of the Oddfellows the unknown but not inconsiderable number of abstainers in their order, whose superior health helps to reduce their average of sickness, and could we eliminate the reformed drunkards

from the Sons of Temperance. (3) Dr. W. B. Carpenter some years ago adduced the Government returns of the sickness of the European troops of the Madras army for the year 1849, in which the men were classed as total abstainers, temperate, and intemperate; these showed that the relative proportion of those three classes admitted into hospital for disease was 130, 141, and 214 respectively, and the mortality as 11, 23, and 44. Later statistics fully corroborate these results. In the hospital return of the 2nd Battalion of the 60th Rifles at Meerut for the first five months of 1878, Surgeon-Major Turton states that there were 75 admissions out of 273 abstainers, that is, 27.5 per cent.; and 130 out of 294 non-abstainers, that is, 47 per cent. The hospital return of the 65th Regiment at Lucknow for six months from October, 1874, to March, 1875, shows that out of 252 abstainers there were 59 admissions, equal to 23.4 per cent.; and out of 621 non-abstainers, 357 admissions, equal to 57.6 per cent. In the 1st Battalion 5th Fusiliers, from January to June, 1874, out of 229 abstainers there were 38 admissions, or 16.5 per cent.; and out of 487 non-abstainers there were 365 admissions, or 75 per cent. In the 54th Regiment, the 92nd Highlanders, and the 1st Battalion of the 25th there were, on the average, in twelve months of 1876-77 or 1877-78, 791 abstainers and 1,621 non-abstainers. Among the former there were 567 admissions to hospital, or 71.6 per cent.; among the latter 1,663, or just over 100 per cent. The mortality returns show a similar difference.

That alcohol should tend, when imbibed, to increase the liability to disease is not to be wondered at when we reflect that it acts in direct opposition to the recognised object of all good sanitation. The great end of sanitary science is to secure the removal in the speediest possible way of the effete products of vegetable and animal life. The great natural means for this end is *oxidation*. The effect of alcohol in the system is to check oxidation; by its chemical action it

hinders tissue change everywhere, and by its action on the corpuscles of the blood itself it renders the interchange of oxygen and carbonic acid less easy and the oxidation more difficult than before. It permits less oxygen to reach the tissues and renders them less able to appropriate it. It is the very antithesis of pure air, and must, therefore, be the more prejudicial wherever the normal purity of the atmosphere is diminished, as in our crowded towns, or when the circulation of the blood is defective either from inherent weakness of the heart or from sedentary habits.

That alcohol is prejudicial to cell-growth and development—that is, to healthy life—may be shown by a simple experiment. If the seed of cress be sprinkled on earth in various pots and watered every day with pure water in one case, and with water containing $\frac{1}{2}$ per cent., 1 per cent., $2\frac{1}{2}$ per cent., 5 per cent., and 10 per cent. of alcohol respectively, it will be found that even the weakest of these alcoholic liquids exercises a marked deterring effect on the growth of the cress; the 10 per cent. solution just permits the seed to swell, and in some cases to sprout a little, but, if continued, finally kills the seed; the others exert a malign influence in proportion to their strength, the 5 per cent. just permitting growth in a feeble and etiolated condition.

Since the cress in this experiment was uncovered the alcohol evaporated, and the results obtained were due to

the intermittent action of alcohol. I afterwards varied the experiment by simply covering the growing seed with a glass cover, so arranged that the condensed alcohol and water ran back to the seed, and I then found that water containing only $\frac{1}{2}$ per cent. of alcohol, thus continuously operating, produced as great a detrimental effect as water containing 5 per cent. applied intermittently; and that $\frac{1}{4}$ per cent., $\frac{1}{8}$ per cent., and even 1-16 per cent. hindered growth in exact proportion to their alcoholic strength.

It is unnecessary to specify the diseases which are frequently caused by alcohol; I would rather insist on the influence it has in rendering disease more frequent, more persistent, and more fatal. If required to state the least quantity which would be thus injurious, I must acknowledge myself unable to do so. But as sanitary reformers we are always advising the people to adopt the best possible sanitary arrangements, and I do not think that any of us would recommend men to be satisfied with a very slight amount of atmospheric impurity or of sewage pollution when pure air and pure water are easily obtained, or the impurities easily avoided. On this ground it seems to me advisable to urge on healthy human beings the strictest avoidance of such an anti-sanitary agent as alcohol, and while I recommend the cleansing of the outside of the cup and the platter, not to undervalue the highest possible purity of the interior.



ALCOHOL IN HOT CLIMATES.

THE *Journal of the Society of Arts* for February 20, contained an interesting paper on "The Principal Causes of Disease in Tropical Countries," by Mr. Alexander William Mitchinson, which was read at a meeting of the Foreign and Colonial Section of the Society of Arts on Tuesday evening, 17th February. Dr. B. W. Richard-

son, F.R.S., a member of the Council, took the chair.

Mr. MITCHINSON contended that health in the tropics, as everywhere else, is much more dependent upon diet and habit of body and mind—and, in towns and villages, upon good sanitary regulations—than upon what is known as the "medical climate" of

a given place, or upon the barometrical, thermometrical, and hygrometrical variations peculiar to a given district. Most of the diseases, attributed in a vague manner to climate, in the erroneous popular use of the term, are, in fact, caused by wrong dietary usages. Every country and climate has its own appropriate dietary laws—unwritten laws, for the most part—but rules appropriate to Europe may be quite inapplicable in Africa. Forgetful of this, Europeans in the tropics, instead of reducing the quantity, and varying the nature of their food on intelligent principles, too often insist on taking, in the same or even increased quantity, the rich foods, wines, spirits, and condiments they have been accustomed to in Europe. The ham, cheese, nuts, fruits, cucumbers, condiments, and even narcotics, they have been accustomed to in Europe, must all be swallowed in due course, and the distresses of the stomach and brain which necessarily follow are set down to the climate. If Europeans would live more consistently with nature, disease and mortality would greatly diminish, and the brain would be as capable of continued exertion in the tropics as anywhere else. Nothing more powerfully contributes to shorten the white man's days than the habit of drinking strong spirits. A very large proportion of the Africanders of the tropics, as the white settlers are sometimes called, will indulge in brandy on an empty stomach; before midday, perhaps, an emptied spirit bottle is sent flying into the street; and in the afternoon abundant evidence is everywhere forthcoming of the indulgence of the morning. The temperature of the blood rises dangerously near the fatal 102° , and, in their alcoholic excitement, such men will often over-exert themselves, producing excessive perspiration, followed by great thirst, and a further dangerous consumption of liquids. Oblivious of the danger, and heedless of the warnings of natives, and of wiser and older residents, they will frequently walk or repose in malarious places just when their heated, perspiring condition is

most prone to the attack of miasma, and, if any harm then comes of it, the horrid "African climate" is held responsible. "I would unhesitatingly refuse to a patient the mixture of water with brandy or with wine—a mixture erroneously, but almost universally supposed to be beneficial in Africa. Some medical men, even, recommend the use of spirits to stimulate a failing appetite—a most unfortunate recommendation. If a man is not hungry when his meal-time arrives, it is far better that he should simply walk away from the table and wait till his appetite returns of its own accord. The absence of appetite will generally be merely an indication that his stomach is not yet ready to undertake a fresh task, and he should place it under no compulsion except such as can be naturally produced under the stimulant of bodily exercise."

In the discussion which followed the reading of the paper, the Rev. HORACE WALLER said that his decided opinion, based on experience, was that by a good supply of tea, coffee, sugar, and, above all, wheaten flour, preserved soups, meats, &c., the men now living at Livingstonia were, to a great degree, kept in good health, and he believed their health depended in a great measure on the commissariat. With regard to stimulants, of course the common-sense of everyone agreed that they were simply destructive; in his opinion there was nothing better than coffee, morning, noon, and night.

Captain FOOT, R.N., stated that most of his time in the service had been spent in the tropics, and he agreed with Mr. Waller, that good living was essential. Regularity of meals was a great advantage. With regard to stimulants his men had their usual allowance of rum, and when they were boat-cruising a double allowance, with sometimes the quinine mixed with the rum, or a little sherry. They looked forward to these little things, and he thought it did them good; they did not, of course, get it in the heat of the day. It was a great thing to keep men cheerful and in good spirits; as he often told them, a

good laugh would do them more good than all the quinine. If persons were not accustomed to stimulants, of course they would be better without them, but those who were used to take them in moderation were, he thought, wrong to drop them suddenly on going to a hot climate.

Dr. THIN said that with regard to the use of alcohol, they all knew it was used freely in all these countries, and he believed it always would be; for the simple reason that the depression and exhaustion which made people resort to it here, were perpetual there. Men worked twelve or fourteen hours a-day, both physically and mentally, and when meal-time came they had no appetite. But they had more work to do, and must eat, and therefore they took brandy-and-soda, or some effervescing drink with alcohol in it, a cocktail or something, and then they were set up and could eat. At the same time he was satisfied that doing this from day to day, and month to month, laid the seeds of arterial degeneration, degeneration of the heart, exhaustion of the system in many ways, and of anæmia. They found out there men of forty suffering from the diseases of seventy in Europe. Alcohol might help them over the day; and they could not always afford to consider what was most conducive to longevity, but it was in the long run pernicious. With regard to the danger of suddenly discontinuing alcohol, he had some experience when abroad. Ladies suffered much more from the climate than men—another sign of the badness of the climate—and they naturally resorted, as other people did, to stimulants; frequently it was ordered by the doctor, and by-and-by they fell into the habit of taking it. He found this in his own practice, and was alarmed at it. He made it a rule, whenever he saw any bad result, simply to say, Stop taking alcohol in any shape or form; and in every instance in which he gave that advice, it was followed with benefit to the health. There might be hysteria, tears, depression, and so on for a week or two, but at the end of a few months the patient

always said it was the best advice she ever had in her life. Delirium tremens was not uncommon in these countries, and it was very fatal—another sign of the badness of the climate. In such cases he always made it a rule to stop alcohol immediately, and almost invariably the patient's life was saved. Naturally, in these countries, there were few abstainers, but amongst the few he knew the health was excellent.

Dr. RICHARDSON, in summing up the discussion, remarked that with respect to the use of alcohol, everyone spoke with some authority from experience, and all bore evidence on one side; for Captain Foot had spoken with extreme qualification as to the use of alcohol at all, admitting that it should only be employed by those to whom it had become, not physically, but morally, a necessity; and those whose experience lay in the metropolis, often met with the same class of cases, to whom they were obliged to allow it, for the same fancied reason. Barring this one objection, there was a consensus of opinion that in tropical climates the effects of alcohol in every form were ultimately prejudicial, and that there, at all events, alcohol could not be accepted as food. He might say, incidentally, that if they had been speaking of the Polar regions, the same argument would just as well apply; and if they turned to their own country, and looked at what had been going on during the past few weeks, they would see again the same story. During the extreme strain to which people had lately been subjected, by the astonishing condition of cold, combined with wet and fog, no enemy had been found so fatal in combination with this as alcohol. He concluded by moving a vote of thanks to Mr. Mitchinson for his paper.

Mr. WILLIAM BOTLEY, in seconding the resolution, said he was acquainted with a major-general who had served twenty-one years in India and tropical climates, but who never took alcoholic drinks. He was now about sixty, and went through a day's walk, or any kind of exercise with as much zest as a young man.

THE EFFECT OF ALCOHOL UPON THE LIVER.

(From the *Medical Press and Circular*.)

THE recent trial of Lewis Paine for procuring the death of Miss Maclean by encouraging her to drink ardent spirits, and at the same time neglecting to supply her with proper and sufficient food, has attracted a great deal of attention. It has long been a generally recognised fact that indulgence in spirits, and especially when only slightly diluted, or what is known as "raw" spirit, induces enlargement of the liver. Whether this enlargement passes onwards to subsequent contraction and diminution, the normal history of cirrhosis, in all cases, may be questioned. That such ulterior diminution of the bulk of the liver is found with chronic drunkards is certain enough; but how far the liver can reach the cirrhotic stage in cases, of acute alcoholism we do not yet very definitely know. From the history of the case given above this would seem probable. It would appear that in April last Miss Maclean was in her usual health. In the middle of September Dr. Beadles was consulted as to whether she was pregnant or not. Whether this impression of pregnancy was caused by abdominal enlargement or not is scarcely quite clear from the evidence. But it seems probable. About the same time, a day or two before, Mr. Shepherd, of Worcester, saw her, and found her to be suffering from a large abdomen—"flatulent distension of the abdomen." There is at this time no statement as to any enlargement of the liver, Mr. Shepherd believing that the liver was "congested." On the 6th of November Mr. Waller, of Upper Dorset Street, was called in, and found "the liver was very hard and enlarged, and prominent to the touch." On the 20th of November Dr. Spurgin made a post-mortem examination on the poor lady, and found the liver enlarged. It weighed 60 ounces. Gray gives the weight of the liver as from 50 to 60 ounces. Now, granting that Miss Maclean was diminutive in

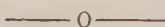
stature, this was not because she was so *petite*, but because she had short lower extremities and a spinal curvature; her liver was but little more in weight at the time of her death than her liver would normally be in health. Yet only a fortnight before the liver was enlarged and prominent to the touch, as well as abnormally hard. Now if we are to accept this medical testimony, and there is nothing of a doubtful character about it, the conclusion which is suggested is—that under the free use of ardent spirits Miss Maclean's liver, which was of normal size on the 16th of September, when seen by Mr. Shepherd, and on the 20th, when seen by Dr. Beadles, had become distinctly enlarged by the 6th of November; and that on the 20th of that month it was found enlarged, but not to any very abnormal extent, *i.e.*, to the weight of a normal liver in a man. Not only was there evidence of the liver being organically changed, but the structure of the heart was in an early stage of fatty degeneration. We are quite familiar with the rapidity with which tissue degeneration is set up by alcohol; but this is a terribly instructive lesson. Here we have a comparatively young woman who, though deformed, was not diseased, and whose habits, though irregular, did not extend to distinct intoxication, at the commencement of April is in apparently perfect health; and yet on the 17th of November of the same year she dies with well-marked degenerative changes in her viscera.

Now Murchison says that in the early stage the symptoms are those of alcoholic dyspepsia; a craving for alcohol, loss of appetite for solid food, and furred tongue, depression of spirits, &c., often with flatulence. In the second stage "there is progressive emaciation and debility. In consequence of the obstruction of the portal vein the intestinal absorption of nutritive material is diminished and then

suspended, while the blood-forming functions of the liver and spleen are more or less impaired. In many cases the patient dies by exhaustion, the intellectual faculties remaining clear to the last." It appears that on the last morning visit paid to her by Dr. Thorman she complained of shortness of breath, and was in so far rational. As to gastric inflammation from drinking ardent spirits, it was not found in this case; and doubtless Dr. Spurgin was correct in saying that the stomach might have recovered itself in the last few days of life when she was not taking other than highly diluted spirits. In his opinion Miss Maclean died of syncope of the weakened heart.

Here, then, we have a distinct history of liver change and death from exhaustion, in a period of certainly not more than six months, under the effect of acute alcoholism. From a condition of perfect health, as regards the organs and tissues of the body, death with well-marked degenerative changes is reached in this brief period. We are compelled to regard this as an instance of very rapid downward changes, and the rapidity of the changes teaches two lessons. One, a pathological lesson, is this: that the tissues of some persons deteriorate much more swiftly under alcoholism than do those of others. Just as the intellectual and moral changes differ in the time of their production, under alcoholism, so do the organic changes in the viscera. It is well-known that when comparatively young women "take to drinking," their course is usually a very brief one. Especially is this the case where enlargement of the liver is a conspicuous symptom;

and where this is found the most active measures should be taken to remove the patient from any possible access to spirits. Then there is a second lesson: a moral one as well as a clinically interesting one. An unfortunate deformed girl, with strong passions, forms an attachment to a scoundrel, at the same time that she develops a liking for stimulants. On the death of her mother she becomes her own mistress, and he induces her to cohabit with him. By doing so she forfeits her position in society and alienates her friends. Having got his prey into his clutches, her paramour encourages her to drink. Under this isolation and intemperance combined he succeeds in depriving her of her property. Now, however defective Miss Maclean's moral sense may have been, we have no evidence of intellectual incapacity in her. Seduced, indeed living in open shame, robbed, conscious of being deceived, no wonder then that the craving for ardent spirits was strong! It needed no fomenting, probably. The progress of her liver disease was remarkably swift. We now know something of the effect of mental worry in the production of visceral mischief. Not only did the unfortunate creature drink heavily, but her mental distress must have been extreme, so that the loss of appetite and craving for spirits was intensified by mental worry. Such being the case it was comparatively easy for her paramour to develop the natural craving. Under these circumstances, then, we can readily understand the rapidity with which the morbid changes in the liver advanced.



ON ALCOHOLIC VASCULAR TENSION, AND ITS EFFECTS.

By JOHN C. THOROWGOOD, M.D., F.R.C.P., *Physician to the City of London Hospital for Diseases of the Chest, &c., &c.*

SOME will say, on observing this title, that it suggests the idea of an individual being what is termed

"tight" from the effects of drinking too much, and this is precisely the idea on which I am desirous to en-

large, for the familiar word "tight" expresses a deeper physiological meaning than may at first sight appear.

Some months ago a young gentleman, robust in frame and of healthy aspect, came to me in much alarm on account of his having coughed up about a teaspoonful of blood. I examined his chest very carefully, and could only say that there might be a little congestion about the right lung. I saw him again in a week, and he then told me that in the interval he had seen two very distinguished physicians, one of whom had given him a written opinion that he thought there was slight congestion of the right lung, the other said he could find no sign of disease in the chest. Now, this young man had a firm quick pulse, a coated tongue, and a hot skin, and owned to habitually drinking an amount of ale and spirits that quite startled me. He evidently had a strong propensity for alcoholic liquors, and one of his physicians said plainly to him that he would rather have a tendency to consumption than have such a liking for alcoholic beverages as had the patient. I told him he certainly got a good two guineas' worth of advice, and recommended him not to forget it.

The case seemed to me to be one of by no means an uncommon class, where a constant state of vascular tension issues in a hæmorrhage, it may be from the stomach, bowels, or lungs.

Persistent excess in the use of alcohol by a healthy person maintains a condition of extra pressure and strain on the small vessels, which at last finds relief in a hæmorrhage.

If the patient be somewhat on in years and have weak degenerative vessels, then a condition of tightness and over-pressure is most dangerous. How often do we have to see a robust looking man suddenly struck down by cerebral hæmorrhage. Probably he has had a good dinner and drunk liberally, and when the doctor arrives and finds the poor man senseless on

the sofa, every one says that he had been congratulated only the day before and told how well he was looking.

Supposing the vascular tension induced by a too-free use of alcohol does not at once issue in a bleeding, it appears to maintain a constant strain on the heart and vessels which seriously impairs the nutrition of these structures, so that the weak and wasted coats of the blood vessels become very prone to laceration and rupture—a condition well expressed by the popular term "rotten from drink." Thus cirrhosis of the liver and granular disease of the kidney may be set going.

The variability in the degree of blood pressure, according as the patient is or is not under alcoholic influence, produces a singular irritability of the nervous system. Sleepless nights with palpitating heart, morning retching and coughing, and utter want of appetite for breakfast, are among a few of these effects.

Want of decision on momentous points, impatience and recklessness, tinglings, numbness, and shooting pains, are other signs of disturbed innervation.

The sudden withdrawal of all stimulus from these persons who have been living in a perpetual state of excessive tension and strain is followed by more or less collapse and sense of exhaustion and sinking, driving a few weak ones back to the drink as being their only safeguard from doing something dreadful.

The best advice to give during this very painful and trying crisis is to encourage the patient to outlive it, by assuring him that it is but temporary, and to take care that he is well supplied with the best of nourishment, and with good fresh coffee when he feels especially down and low, while at the same time he takes a bitter tonic medicine, and under this regimen, and a fair amount of resolution on his own part there comes in time a renewal of life, and a restoration of nerve that is most satisfactory to witness.—*Medical Press and Circular.*

Notes and Extracts.

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INTEMPERANCE AND LUNACY.—The Commissioners in Lunacy have issued their twenty-third report, and from this we gather that lunacy is steadily on the increase, there being 69,885 persons of unsound mind on the official register. Intemperance is again at the head of the list of causes for the lunacy, but this has unfortunately been the case for some years.—*Medical Press and Circular*.

A NOVEL AID TO DIAGNOSIS.—A letter from Dr. Burman, of Richmond, in the *British Medical Journal* of January 10, suggested the inspection of the keyhole face of watches as an occasional aid to diagnosis in cases of suspected alcoholism. The doctor remarked that "a certain amount of calm adaptive power" is required for finding the keyhole of a watch; and that he has accordingly observed that those of "a number belonging to teetotalers and notably temperate men," were smooth and unscarred, while those of men of opposite habits were "more or less scarred or scratched" about the keyhole.

ABSTAINING IN OLD AGE.—A member of the Royal College of Physicians of London, writing to the *Lancet* (February 21), states that he took snuff for forty-six years, and had smoked for ten, and adds:—"I do a great amount of work as a county magistrate, and at sixty-eight (I am now seventy) seeking to force my mind to occupation, after very many trials, I began to learn German, and I believe I am now a competent German scholar. For two years I have entirely abstained from all forms of alcohol, and am more comfortable without it. I never used it except moderately." It is noteworthy that the venerable doctor's successful effort to learn German was contemporaneous with his two years' experiment of abstaining from alcohol.

LESIONS OF THE PERITONEUM IN DRUNKARDS.—Professor Leudet, of Rouen, read a paper on this subject

at the recent Montpellier Congress, and arrived at the following conclusions:—(1) Persons who abuse alcoholic drinks may become the subjects of ascites, which comes on without marked symptoms and without prior notable derangement of health. (2) Such ascites is susceptible of prolonged arrest, and perhaps even of a definite cure. (3) The chronic peritonitis of drinkers may come on slowly without any grave symptom. (4) It seems frequently to be the result of a slow irradiation of lesions of the digestive canal, such as gastric cirrhosis, with or without ulceration, or of enteritis. (5) Chronic peritonitis may induce inflammatory recrudescences of the peritoneum, general or partial effusions, or intra-peritoneal hæmorrhage.—*Gaz. Hebd.*, December 5.

DOES ALCOHOL AID DIGESTION?—The *British Medical Journal*, September 20, contained a review of the seventeenth volume of the "Cyclopædia of the Practice of Medicine," which contains a treatise on Toxicology, by Professor Boehm, of Dorpat. The reviewer says:—"In the section on Anæsthetics, alcohol and alcoholism occupy a conspicuous place. Acute and chronic alcoholic poisoning are fully considered, and numerous authorities are quoted in support of the writer's views. He strongly dissents from the opinion that alcohol in any form improves digestion. Claude Bernard has proved by experiment that, so far from increasing the secretion of gastric juice, alcohol has exactly the contrary effect. In fact, it brings about a diminution of all secretions. Bernard found that he could check digestion in the stomach of the dog, when the process had commenced, by simply introducing alcohol. It is a novelty to hear of mild forms of intoxication resulting from the common application of alcohol or spirits of camphor to wounds under surgical treatment" (p. 390).

ALCOHOLIC STRENGTH OF BEER AND WINES.—The very wide range of alcoholic strength of beers, wines, and spirits in ordinary consumption undoubtedly prevents consumers from easily forming any idea of the amount of alcohol which they are consuming in their daily beverages. It would, we think, be well worth considering whether means might not be taken by Act of Parliament to require all persons selling any alcoholic liquor to mark upon the vessel in which they sell it the alcoholic strength in ounces—that is to say, state in what quantity the beer, wine, or spirit sold is equivalent to one ounce of alcohol. An ounce of alcohol seems now to be accepted as a sort of rough conventional standard, as a maximum which might be consumed in health by persons desirous of avoiding excess; and as a first step towards the avoidance of excess it would be desirable that any man drinking his daily claret, or beer, or sherry should know what is the equivalent of alcohol which it contains; and in order that he may understand the statement it is desirable it should not be stated as percentage, but plainly in a manner readily comprehensible by the statement of the quantity equivalent to an ounce of alcohol.—*British Medical Journal*.

NON-ALCOHOLIC TREATMENT OF CHILDREN'S CHILBLAINS.—We have received permission to print the following letter, written by Dr. Alfred Carpenter, of Croydon, in reply to a lady who had heard of a child being almost soaked in *port wine* as the only remedy for chilblains:—"Don't let the little child have stimulants simply for chilblains. It is possible that the free use of stimulants in former times by ancestors has led to the condition itself; let it drink plenty of thin gruel, made tasty with a little fruit-juice. Get it to take fat in some way, as it is in light suet puddings soaked in beef gravy, and above all things keep the skin quite dry, clothe with flannels, wear gloves, and when washing, before the hands are dried, just anoint them very slightly with honey, and thoroughly dry them afterwards by con-

stant friction. It is by rubbing the hands and feet by means of other warm hands, or the skin of some animal with the hair on, that the cause which produce chilblains will be most certainly removed. The vessels are already somewhat paralysed—to repeat the state by the exhibition of stimulants is wrong in every way; it warms the surface of the body for a short period only at the expense of other parts, and decreases the power of the nervous system to control the circulation. If you value the future of the child follow the rules I have laid down, and don't for the sake of immediate comfort destroy its chance of escape from a most uncomfortable and probably dangerous condition of capillaries."

TOTAL ABSTINENCE AT CARMARTHEN ASYLUM.—Dr. George Hearder, the medical superintendent of the Joint Counties' Asylum, in the course of his report, just published, makes the following important observations:—"The use of wine or spirits in the management of diseased conditions has now practically discontinued for three years, and it is with confidence asserted that no case has been under treatment which would have been benefited by the exhibition of alcohol. In two or three acute cases, as a result of consultation with others, wine or spirit has been administered, but in no instance with beneficial result. With the year 1879 terminates the use of beer in your asylum as an article of diet. Its value as a food is very small, and out of all proportion to its cost, while the ordinary dietary is ample without it. Those who are sent here for treatment may, with much show of reason, assume that, having been recognised as a necessary beverage by the authorities of a public hospital—for such is indeed every county asylum—and supplied to them as an article of daily food, beer has in reality the high value with which they are willing to credit it; and after leaving the asylum, it is certain they will not be able without a strong effort to break with the habit which has been confirmed during a residence here of possibly many months. The most serious argument against the use of beer as

food in such institutions as this is to be found in the fact that excess in drink is undoubtedly the most potent cause of insanity. Stronger evidences cannot be required against a practice which may in any degree tend to foster or lead up to habits of intemperance."

COD-LIVER OIL AND ALCOHOL.—A correspondence recently took place in the *British Medical Journal* as to the advisability of administering alcohol in combination with cod-liver oil. Dr. William Cash Reed, of Plymouth, wrote—"Recently house-surgeon at the North-Eastern Hospital for Children, London, I had abundant opportunity to observe cases of what might be considered a 'pretubercular' condition, and I cannot agree that alcohol is at all desirable in such circumstances. I would submit, firstly, that the great majority of cases that would give one a suspicion that a tubercular diathesis was present will so markedly improve under good food and air as to compel one to abandon the suspicion; and, secondly, that precisely in those cases in which tubercle is the least expected it will eventually appear. Tubercle is, I venture to think, the great bugbear of the young physician. In the former class of cases I cannot conceive how alcohol can possibly be assumed to be beneficial when a careful survey of its action is gone into; and, in the second class, I should certainly think the cod-liver oil and phosphorus to be the elements in the mixture which give rise to the improvement. The case mentioned by Mr. E. N. Smith is a good comment upon the subject of alcohol in children's diseases. Surely it is rather deficient assimilation from which they suffer than from an asthenia to be benefited by stimulation. And further, my experience tends to show that children will very rarely refuse cod-liver oil, especially if given immediately after food, and that often after the first few doses they take quite a liking to it. Our resources will always suggest some form of emulsion made pleasant to the taste, which the little patients will take readily."

DR. BEDDOE ON ALCOHOL.—At a Conference held at the Victoria Rooms,

Clifton, on November 26, 1879, under the auspices of the various Ladies' Temperance Societies of Bristol and Clifton, the following letter, addressed to the Secretaries by Dr. JOHN BEDDOE, was read:—"I am obliged by the invitation of your committee to the meeting of the Ladies' Temperance Association. Other engagements will prevent my attendance; but you have my best wishes for the successful issue of the Conference. It is true that I have been an abstainer for more than thirty years; that is to say I have been an habitual, but not a *pledged* abstainer. As for my views on the general subject, they have been published to the profession but not to the public. I hold that a large—a very large—majority of healthy persons, aye, and of persons who are called delicate and sickly, are better without alcohol in any form. Still, there are some who do not appear to be any the worse and a few who are even the better for its moderate use. I consider alcohol as a very bad food, but occasionally a good medicine—as such I occasionally prescribe it, though always with caution and reluctance. To return to my own experience—I have never seen reason to waver in my belief or to alter my practice. Though never a robust man, I have gone through a great deal more of physical and mental labour than I believe I could have accomplished had I been even a moderate drinker. I can give you one instructive little fact—I once lived for twelve months in the neighbourhood of two villages, one of which had a Christian, the other a Mussulman population. Both were healthily situated, and the inhabitants of both were equal in wealth, occupations, and other circumstances. But while the Mussulman village abounded in hale, hearty, vigorous old men, few of the Christians seemed to overpass fifty or fifty-five—and no cause for this difference could be observed by myself or others, except that while the Mussulmans were rigid abstainers, the Christians all drank freely, and many of them were drunkards."

THE

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Original Contributions.

THE MEDICAL PROFESSION AND THE TEMPERANCE CAUSE.

By E. MACDOWEL COSGRAVE, M.D., Colchester.

FEW things are more pleasing in connection with the temperance cause than the ready attention with which the opinions of medical men are nearly always received, no matter which side they take. No matter where they appear; whether on the platform or in print; whether as lecturers, debaters or writers,—their utterances are treated with respect, and their arguments and conclusions are allowed to be worthy of every consideration. It seems on all sides to be recognised that the actions, the uses and the dangers of alcohol can be best understood by medical men, and consequently the accession of so many members of the medical profession to temperance principles during the past few years has given an impetus to the cause, far stronger than that which would be given by the adherence of an equal number of the laity.

This marked attention to medical utterances on the temperance question may be caused in part by the slowness with which professional opinion is veering round. People naturally distrust sudden changes of opinion, and so place more reliance on us as the followers of the movement than they would if we had been its pioneers. Should this be so, we may indeed exclaim, “Good is wrought out of evil!” Our slowness to disbelieve in the panacean properties of alcohol is a subject for self-reproach; the attention with which we are listened to is the gleam of the silver lining from behind the darkness of the cloud.

The possession to such an extent of the confidence of the

public brings with it a great responsibility ; and personal abstinence from alcohol but discharges this responsibility in part.

It is a time of doubt and difficulty. Alcohol is, with many, on its trial. People have long trusted in it, but their faith is being gradually undermined. Still custom, tradition, vested interests and the voices of too many living advocates are yet in its favour, and the time when alcohol will be relegated to the shelf for medical poisons seems distant.

Success may be certain in the future, but that is no reason why we should rest on our oars. Ultimate and complete success is, indeed, devoutly to be wished for, but the importance of immediate, though partial, successes must not be overlooked. We are not striving to overthrow an idea, but to root out a great physical evil. Thousands of lives are being lost every year. The more we can spread knowledge on the subject, the more we can advance temperance principles, so much the more this reckless waste of life will be checked.

Many find a difficulty in bringing forward their opinions so as to influence others. At temperance meetings temperance people too often form the entire audience, and converts can only be made indirectly, by strengthening the hearers in their convictions, and rousing them up to work outside.

Lectures on the subject seem hardly to be successful ; they are difficult to illustrate with *telling* experiments. Curious precipitates and interesting changes of colour may be made, but it is hard to find experiments that will simplify the subject, and make it easier to remember. Also the very fact of a lecture or meeting having anything to do with temperance is too apt to keep away those whose attendance we would most desire.

These are no imaginary evils. They must be apparent to all those who are anxious that alcohol should be known as it really is, and not as disguised by the mellow, but unphysiological traditions of centuries.

There is then a want,—some simple means by which enough of physiology and kindred sciences can be taught to all classes to make them realise the great danger of the reckless manner in which alcohol is at present employed.

This want is, to a great measure, supplied by the lectures instituted under the auspices of the St. John Ambulance Association. In these lectures it is necessary to explain the reasons why stimulants should seldom, if ever, be given in cases of accidents and emergencies before the arrival of medical assistance, and so, of course the chief ways in which alcohol acts on the human body have to be explained.

Five lectures constitute a course. At the end of each course an examination is held ; the examiner being sent from the London

headquarters. Those who pass the examination receive certificates testifying that they are "qualified to render first aid to the injured."

The first lecture treats of the general structure of the human body, and the functions of the circulation, respiration, and the nervous system. The next treats of hæmorrhage. The third is devoted to fractures. The fourth takes in emergencies when insensibility is the prominent symptom; burns and scalds, poisons, bites of rabid animals; treatment of those apparently drowned or otherwise suffocated. The last lecture is, in the case of male classes, devoted to the consideration of the best means of moving and carrying injured persons, and to the construction of impromptu appliances, such as stretchers. The female classes have a lecture on nursing and care of the sick instead.

After each lecture instruction in bandaging, &c., is given. This practical work is made as far as possible to coincide with the lectures. For example, extempore tourniquets would come in naturally on the second day. Splints on the third, and artificial respiration on the fourth.

It will be seen from this how useful the course of lectures can be made for striking at one of the many ways in which the use of alcohol is so often abused,—the almost mechanical way in which it is used in all cases of doubt or difficulty; a rule of wider application than "When in doubt play trumps," is "When in doubt give stimulants." Enough can be taught of the vital processes and of the action of alcohol on them to make the hearers interested in the subject and to render them likely to pursue it farther.

Although our centre here has not been long in existence, having only commenced operations in January of this year, we are able—owing to the large number that have passed through our classes—already to speak of results. Throughout all the classes I was greatly struck by the ready way in which the idea was caught at that the giving of stimulants was no part of "first aid," properly so called. The absolute danger of giving them, particularly in the case of hæmorrhage, without professional advice, was also received much more rapidly and universally than I expected. In a few cases in which members of classes have been present at accidents and cases of sudden illness, we have seen the practical application of the knowledge so gained. In one case—an epileptic fit—before the member of the class arrived, brandy had been sent for and one of the bystanders was moistening the patient's lips with it. My pupil remonstrated, and said it would do the man harm, but without avail; the usual argument, if not expressed, was at any rate acted

upon—"Brandy is good for illness. This man is ill; therefore he must get brandy." However my pupil (who was only a labouring man) was equal to the emergency, and conquered by a little honest guile. Having laid the sufferer down (he had been raised into a sitting posture), loosened his collar, and generally acted as he had been taught to do in such a case, he took charge of the brandy glass, and—determining, as he told me afterwards, that the man should get as little as possible internally—he rubbed the brandy on the patient's forehead and hands, and did so to such good purpose that before he recovered consciousness all the stimulant had been used up.

In other cases the administration of stimulants has been entirely prevented. One case is especially worthy of record, as showing the ignorant way in which people too often try to help by giving stimulants, and doing nothing else. During the last borough election a large cart covered with placards upset, and falling against a man knocked him down. Fortunately the accident happened opposite the police station, and the head-constable and a sergeant ran out. However, quick as they were, brandy had already been sent for, and the man had been placed sitting up. Indeed the police only just arrived in time to prevent him being raised to his feet. The police at once assumed charge of the case, and with some difficulty kept the crowd back. On examining the man they found that one of his legs was broken, so they once more placed him lying down, bandaged the injured limb with handkerchiefs to a broomstick and a piece of board, placed him on our "Beaufort stretcher," and carried him to the hospital, where he arrived without having suffered the slightest pain during the transit. What the consequences of the give-him-some-brandy-and-let-him-go-home treatment would have been can easily be imagined from the fact that both bones of the leg were broken, the tibia being split obliquely from just below the tuberosity, to some two or three inches above the ankle-joint!

There is another direction in which these lectures may prove of use, that is in the case of those who become drunk for the first time, or who, at any rate, have not often been so before. An instance of this, also arising out of the general election, lately came under my notice. Some girls were noticed to be in an excited condition. Their companions attempted to soothe them, but without avail; indeed, in spite of all kindness, they seemed to be growing worse. At length a lady (who holds a certificate) came on the scene, and smelling the breath of the culprits, and noticing some other plain signs, diagnosed "drink." She at once adopted a sterner tone, and administered plentiful supplies of mustard-and-water, and soon roused the girls from the comatose state into which they were sinking. The girls seem to have

learned a useful lesson, and I trust the prompt and efficient treatment they got may tend to keep them from future escapades.

Some time ago the following question was asked at an examination of working men:—"What do you mean by, and how would you recognise collapse or shock; and state why you would give or withhold large doses of alcohol (brandy, &c.), in shock after bleeding."

The shortness of the course, the practical instruction which exercises the hands as well as the head, the useful knowledge gained, the certificates awarded, and—perhaps chiefly—that love of lessening sickness and sorrow which is so deeply implanted in the human breast, all conspire to render the lectures popular, and to attract members of all classes of society in a way in which—as far as my experience goes—nothing else will.

Although I have dwelt upon the usefulness of the St. John Ambulance Association chiefly from a temperance point of view, it must not be supposed that I value it only for this, or would wish to see its working at all restricted to serve the special object of our Association. I believe in the widest sense in the mission of the St. John Association, and consider it a great privilege to be able to work for it. I believe that it cherishes and spreads a humanity which should be universal, and so above all differences of race, creed, or opinion. I have only dwelt upon the one phase of its usefulness in the hope of showing the members of the British Medical Temperance Association how they, even amongst medical men, have a special reason for joining heartily in the Ambulance work.

Full information as to the starting and managing of classes can be obtained from the courteous Chief Secretary of the St. John Ambulance Association, St. John's Gate, Clerkenwell.



POST PARTUM HÆMORRHAGE—ITS CAUSES AND TREATMENT. *

By NORMAN KERR, M.D., F.L.S.

WHILE I cannot agree with the great obstetrician† who says "no one should be permitted to die of hæmorrhage," I feel firmly convinced that nearly all cases of this alarming complica-

* Read to the North-Western Metropolitan Counties Branch of the British Medical Association.

† Barnes, *Ob. Op.*, 3rd. ed., p. 588

tion of labour are within the reach of our art, and that a fatal termination ought to be a very rare occurrence.

My experience embraces sixty-four cases of serious hæmorrhage, all in which life was not in imminent danger being excluded from this review. This large number arises from my having held, and still holding, public appointments, formerly in the country and now in London, the majority of the patients having been delivered by unqualified persons, I being summoned only when a disastrous issue seemed impending.

I. CAUSES.—While unskilful interference, defective sanitation, and deficient nutrition largely contributed to the absence of contractile power in the uterus, in the majority of the cases the administration of alcohol has apparently been the main factor. In every case amongst the poor there has been a free resort to brandy or gin for the avowed purpose of hastening the labour; ignorant midwives and officious neighbours insisting, and the suffering woman herself believing, that a generous dose of alcoholic comfort would get her sooner “out of her trouble.” Nor is this false belief confined to the poor. Amongst the well-to-do and rich, with a very few exceptions, the most difficult task I have had has been to prevent the administration of alcohol in some elegant form by the attendant nurse. Whether a weakness on the part of the latter for the vinous or spirituous solace accounts for her very general and unstinted recommendation of alcohol to parturient women, I stop not to inquire. Nor is the prescription of wines and spirits in such circumstances confined to nurses. An amiable and accomplished practitioner not many years ago publicly declared that he made it a rule to administer to every mother, as soon as the child was born, a glass of Scotch whisky. In my experience, the use of alcoholic stimulants, either before or during labour, has oftener induced post partum hæmorrhage than all other causes put together. Busch and Moser * say that amongst the causes of this form of hæmorrhage are “stimulants and a heating diet”; Conquest gives a prominent place to the exhibition of stimuli; Burns speaks of the use of stimulants as “contributing to the production and renewal of hæmorrhage”; Roberton, quoted by McClintock, † enjoins abstinence from stimulants to secure the desiderated quietude of the vascular system; Leake, who inveighs strongly against the administration of alcohol in parturition, narrates a severe case ‡ of post partum hæmorrhage caused by spirits, and another caused by port wine, given by a midwife.

II. TREATMENT.—The means I have found successful, having

* Trans. by Copeman. † Smellie, *Mid. New Syd. So. I.*, 389.

‡ Leake, *Mid. New Syd.*, p. 323.

had no fatal case, have been clearing out and internal manipulation of the uterus, external pressure, ergot, turpentine, aluminate of iron, and cold after, in collapse, ammonia or aromatic powder in hot water, extractum carnis, and injection of water at 110° F.

CASE I.

E. G., 28, primipara, May, 1876. Delivered two and a half hours, when there was a sudden flow of blood, which continued for an hour and a half without intermission. On being called, I found her apparently lifeless, quite blanched, cold, covered with clammy perspiration, pulseless. The placenta had been all removed before the hæmorrhage began. A draught composed of ten minims each of aromatic spirit of ammonia and chloric ether, with a teaspoonful of the liquid extract of ergot, which I carried in my case against an emergency, was at once given. Hot bottles were applied to the feet, and an enema of turpentine administered. In about twelve minutes the patient had so far recovered that I ventured to clear the uterus of coagula, and excited contraction by combined internal and external manipulation. Half a drachm of the ergot was given every fifteen minutes for fully three hours, and with a mild opiate every thirty minutes, for over seven hours thereafter. The ergot was continued in doses of ten minims every three hours for forty-eight hours more. Ice was freely given, and the diet consisted of extractum carnis (at first hot), iced milk, and oatmeal gruel. The patient made an excellent recovery, and was confined of a second child thirteen months afterwards in a remarkably natural and easy labour.

CASE II.

S. K., 36, August, 1874, multipara, an excitable, nervous woman, a "bleeder," who insisted on being delivered in the upright position, was seized with violent hæmorrhage three hours after removal of placenta. Appeared moribund when I saw her. *Treatment* :—Pulv. aromat. in hot water, external heat, extract of meat hot, ammonia and ergot, clearing out of a small piece of placenta left behind, with, gradually, opium. Diet—beef tea, milk, and gruel. She was out of bed in nine days, and has had two children since, hæmorrhage having been promptly arrested in both labours by free administration of ergot both before and after delivery, pad and firm bandage, and delivery in ordinary obstetric position in this country.

CASE III.

M. A., 27, primipara, June, 1878, consumptive. Hæmorrhage had been going on continuously for five hours after birth of

child. Patient blanched, and pulse barely perceptible. *Treatment*:—Aromatic powder hot, external heat, ergot, and ammonia, hand in uterus, and external pressure, iron alum ten grains, acid sulph. dil. ten minims every hour, ice, milk, beef tea, essence of beef and gruel. Perfect recovery in eight days.

CASE IV.

M. H., 39, August, 1871, multipara, third child, agricultural labourer's wife. Half an hour after removal of placenta a sudden gush took place, followed by fresh and copious floodings every ten or twelve minutes. Saw her in less than an hour after the hæmorrhage began, pulse weak, frequent, and jerky, extremities cold, face pallid, jactitation; said she was dying. *Treatment*:—Ol. terebinth half an ounce, heat to feet, warm milk, hand in uterus, external pressure, beef tea, and gruel. Three doses of turpentine were taken. Complete recovery in seven days.

CASE V.

I was called at five o'clock a.m. on the 5th Januray, 1879, by a midwife, to Mrs. T., aged 28, primipara. She had been delivered of a living child an hour and a half previously, and the placenta had come away half an hour before they sent for me. I was told that there had been an enormous amount of flooding, that the patient was dying, and that the midwife had done everything that could be done, having given large quantities of brandy. [*Note*: I generally find in these alarming cases of flooding that brandy has been freely administered, and were it not for the common, though most dangerous, practice of giving alcoholic stimulants immediately before and after childbirth my services would very seldom be needed for the remedying of this dire complication of labour.]

I found the patient in a very bad way, deathly pale, cold, unconscious, and with no perceptible pulse. The vagina was packed with clots, the greater part of which I immediately cleared away, though time was too precious to admit of removing the entire mass. As there was a little difficulty in finding the *os uteri*, I at once injected about a quart of hot water (at least 110° Fah.) into the vagina. I had hardly withdrawn the tube of the syringe before a faint tinge of red began to appear on the face, accompanied by a slight warmth of the skin, and a faint pulse.

In about three minutes more I had cleared out the remaining clots, and as a fresh supply of water not quite so hot as at first, but probably about 105° Fah. was now ready, I passed the uterine pipe of the syringe right up to the fundus of the flaccid uterus, and threw up about one and a half pint.

A firm pad and binder were applied to the abdomen, the uterus being now well contracted, and liquid extract of ergot (my sheet-anchor in flooding) was administered in ten-minim doses every fifteen minutes for two hours, and then gradually diminished in quantity and frequency. She made an excellent recovery. Slightly warmed milk, Liebig's extractum carnis, and cocoa, were the only articles of diet given.

CASE VI.

On the 28th April, 1879, at half-past three o'clock a.m., I was summoned to Mrs. J., aged 29, a multipara. The family had all retired to rest at half-past ten p.m., and the patient was seized with labour-pains shortly after that hour. These increased rapidly, and it was with difficulty that she, after a long time, succeeded, by rapping on the wall, in awaking her mother, who slept in the adjoining room. The child had been expelled ere the mother reached her. They were all in a great fright, the event having come upon them quite unexpectedly. What was described as "a tremendous stream," followed by sudden collapse, added to their consternation, and they sent for me with the message that the patient had taken suddenly ill and was dying, though saying nothing about the nature of the case.

I found Mrs. J. with a threadlike, irregular, and almost imperceptible pulse, deathly pale, cold, her forehead bathed in clammy perspiration, in great distress at the prospect of death, which seemed to her imminent. Having removed the placenta, I applied a pad and binder, and ordered hot bottles to the feet. The hæmorrhage had ceased on the extraction of the placenta from the uterus, which contracted at once.

I then went home for ergot, a Higginson's syringe, and other obstetric *armamenta*. On my return in about fourteen minutes I found the patient apparently moribund. It appeared that she had attempted to get out of bed in the absence of the mother, who in leaving the room had disobeyed peremptory instructions, a gush of blood had come on, and she had fallen back apparently lifeless.

There was a pool of blood, and the uterus was flaccid. I at once injected about a quart of hot water about 105° Fah. right up to the fundus uteri, and had the inexpressible satisfaction of feeling that organ immediately contract. There were very faint traces of re-animation for fully fifteen minutes, during which time I repeated the injection twice. As soon as the patient could swallow, Extract Ergotæ Liquid. was given in half-drachm doses every fifteen minutes, for an hour, and thereafter at gradually increasing intervals, and in constantly diminished doses, for

twenty-four hours more. Hot applications to the feet, warm milk, beef tea, extract of meat, soups, and farinaceous food, comprised the diet. The patient made a good recovery, with, as in the preceding cases, comparatively little reactionary fever—so little, in fact, that no medicine had to be prescribed to allay it.

From Cases V. and VI., and from other cases of collapse to which I have been called, in which the injection of hot water seems to have promptly aroused the waning vital powers, the conviction has forced itself upon my mind that the injection of hot water is a most valuable general stimulant. Where the exhaustion is not so extreme, the injection of cold water appears very efficacious; but where the collapse is complete, and life seems ebbing away, either from weakness following previous disease, or from too profuse hæmorrhage in a healthy subject, the hot-water injection appears to act like a charm, while the application of cold is contra-indicated.

In the arrest of the hæmorrhages of both pregnancy and parturition, where there has been the extreme of exhaustion, I have found no remedy so reliable, so immediate in action, and so void of risk. Alcohol acts nearly, though not quite, as rapidly, but it is unreliable. It fails sometimes, and where it succeeds it is rarely, if ever, free from the danger of inducing reactionary symptoms, which alcoholic fever may set up a new and fatal bleeding. The injection of hot water, on the other hand, is thoroughly reliable, instantaneous in effect, always safe, and not liable to be followed by dangerous sequelæ. In all profuse hæmorrhage of pregnancy and parturition, when utter prostration has set in, the hot-water injection acts as a prompt and powerful stimulant to the ebbing powers of life, while it instantly excites the contractile power of the uterus, and thus rapidly checks the loss. This simple, ready, and effectual remedy is, therefore, an invaluable weapon in the obstetric warfare we are so frequently called upon to wage with death.

Of these six cases, selected from my note-book, all but the fourth were in London. In none of these was alcohol in any form administered, and all recovered without any secondary fever. The only two cases in which I have met with secondary fever (as evidenced by throbbing in carotids, severe headache, intolerance of light and sound, thirst, and sleeplessness) of any moment, were the only two in which I gave any alcohol. In the one case, while other and safer stimulants were being procured, one tablespoonful of brandy was given; and in the other, the mother and aunt made such a disturbance, that, the case seeming almost hopeless, and these infuriated matrons declaring that if the patient died without some brandy they would accuse me of

killing her, I poured forty-five drops of this favourite British panacea into a half-pint of water, and gave a teaspoonful of the mixture every three hours. I have had no occasion to try injections either of tannin or iron, though I should not hesitate to do so if the other measures already detailed had proved ineffectual.

While thus realising such cheering results from non-alcoholic treatment, I have had frequent occasion to witness a fatal termination where alcohol had been employed. In one case on which I was directed by the coroner to make a *post-mortem* examination, death cut off a strong and healthy young married woman who had been most assiduously attended for eleven hours by several excellent medical men, who had administered to her large quantities of spirits. Leake denounces, in no measured terms, "that pernicious and destructive method of giving heating cordials or spirituous liquors, with a view of reviving the patient, to which many have unhappily fallen victims." *

What are the indications of treatment? I., Keep patient alive; II., Check the flow of blood; III., Set up uterine contraction.

I. How is the patient best kept alive in extreme exhaustion? Not certainly by an agent like alcohol, that, even if it have a low nourishing power (a fact yet to be proved), still further exhausts and depresses the vital powers; but by essence of beef, beef tea, meat extract, milk or oaten gruel; none of these being so exhausting as alcohol, and all containing a sensible amount of life-sustaining nutriment. Says Leake, † "The best cordials are those fluids which replenish the empty vessels without heating the body; and, therefore, broths prepared from animal substances, jellies, and the like, are of all others fitted to afford expeditious nourishment."

II. How is the flow of blood most readily and effectively checked? By assisting Nature in her beneficent accomplishment of this (*a*) by the blocking of the relaxed blood vessels by coagula, and consequent stoppage of the flow; (*b*) by diminishing the force of the circulation, so that less blood will be ready to be poured out, and the coagula run less risk of being disturbed; and (*c*) by arousing the contractile power of the uterine walls and arteries. Alcohol acts in exactly the opposite way. It disturbs and excites the circulation, thereby at once increasing the flow and washing away the natural impediments to this flow, and, by vaso-motor paralysis, tends to keep the uterine walls and arteries relaxed and open. Syncope or faintness is nature's great remedy for the arrest of hæmorrhage, and the very general employment of alcohol to combat the natural tendency to syncope has but too often proved fatal. As Leake says, "In fainting fits wine and

* P. 276.

† P. 278.

brandy increase the motion of the blood, and again force open the bleeding vessels, and thus the patients alternately flood and faint till the hour of death.”*

III. The necessity and value of uterine contraction, in addition to aiding in arresting the flow, lie in the fact that it prevents the renewal of the loss, and, once permanently induced, secures the safety of the patient. How is uterine contraction best induced? Not, so far as we know, by alcohol. An exact knowledge of the action of alcohol on the uterus is, as yet, wanting, but the knowledge we have of its action on other organs would point to the conclusion that it possesses no power of arousing contraction, either in the walls or arteries of the uterus. And the disastrous consequences resulting from its free administration in hæmorrhage seem to confirm this. McClintock says:—“I do not believe that alcohol possesses any direct or special influence on the uterus.” The introduction of the hand, kneading externally, the uterine injection of cold or hot water, turpentine enemata and ergot, are the most powerful agents at our command. The last I have found the most reliable.

I have again and again given one to two ounces of the liquid extract in less than three days.

Barnes, Earle, Hodge, Schroeder, Tyler Smith, and Leishman are loud in the praises of brandy; Higginbotham, Munro, Colletette, Bennet, Reid, Russell, Beaumont, Sleman, Lankester, Lyford, Nicolls, Townson, Mudge, and Poole object to alcoholic remedies altogether; while Burns, Conquest, Daventer, Denman, Guilleman, Hewson, Hyernaux, Ingleby, Johnson, Maubray, McClintock, Milne, Ramsbotham, Ryan, Smellie, and Stewart, where they do most guardedly recommend alcohol, insist that it must never be administered to avert fainting, and is admissible, with the greatest caution, only when deep syncope threatens to pass into fatal collapse and extinction of life. To use Burns' own words: “When the power of the system is reduced, the degree of its action must also be reduced; and, by carefully proportioning the one to the other, we may often conduct a patient through a very great and continued degree of feebleness. Where there is an income so small as not to be sufficient to procure the necessaries of life, so also may the vital energy be so much reduced as to be inadequate to the performance of those actions which are essential to our existence, and death is the result. Surely he who should attempt to prevent this by stimulating the system would only hasten the fatal termination.”† “It is by giving mild food, so as gradually to restore the quality of the blood and the strength; it is by avoiding the stimulating plan on

* 276.

† *Prac. ob. on Ut. Hæm.*, p. 38.

the one hand and the starving system on the other, that we are to carry the patient safely through her danger.”*

With the loss of blood there is a corresponding loss of heat, and the body cools rapidly. Alcohol lowers the vital temperature and is therefore contra-indicated. Again, alcohol vitiates and impoverishes the blood by robbing it of oxygen, and is therefore a lowering, and not a supporting, agent. The depression arising from this loss of animal heat and this devitalising of the blood, probably more than counterbalances any provocative or stimulant effect it may temporarily have on the heart and circulation; and thus alcohol is a remedy of very doubtful efficacy and safety, one fraught with great risk, and ought never to be employed when any as prompt, more reliable, and safer cardiac stimulant is available. In extreme collapse hot applications, warm tea, coffee, gruel, or milk, aromatic powder in hot water, ammonia, hot uterine injections, and turpentine enemata, will be found more efficient, quite as prompt in their operation, and liable to be followed by little of that secondary fever which is so apt to follow the administration of alcohol.

This terrible ailment is the most appalling we, in the practice of our profession, are called upon to treat; and it is indeed almost more than human nature can bear, in the very presence chamber of death, and amid the frenzied utterances of an excited mother, and perhaps other friends, all imploring you to give some alcoholic stimulant to bring back some appearance of life, to stand calmly by and see your patient apparently fainting to the grave; but if you only have that courage which true science and ripe experience ought ever to arm you with, you will rarely, in the end, have occasion to use any other language than that of the great master of the world's emotion:—

“ This one will live : nature awakes : a warmth
Breathes out of her ; see how she 'gins to blow
Into life's flower again.”



INTOXICATION IN THE LOWER ANIMALS.

It has been said that to man belongs the prerogative of being the only animal which evinces its sorrow by tears and its joy by laughter, although Dr. Darwin and Dr. Lindsay would probably dissent from the proposition; and some have supposed that one of the distinguishing characteristics of the superiority of man over

* *Prac. ob. on Ut Hæm.*, pp. 69-70.

the rest of the animal world is, that he alone seeks pleasure and oblivion in the wine cup; but this flattering unction must be no longer laid to the soul of the toper. Dr. W. Lauder Lindsay, in an extensive and elaborate work on "*Mind in the Lower Animals*,"* having conclusively shown that the privilege—if privilege it be—of getting drunk does not belong to man alone, but may be found extending down through many grades of the zoological scale. When it has been said, "He was in a beastly state of intoxication,"—or, in shorter, sharper terms, "He was as drunk as a pig,"—it has been commonly supposed that these expressions rather imply a libel upon the beast, and that the man was exhibiting a habit and a failing to which the animal was not subject; but, according to Dr. Lindsay, the unfortunate fact remains—"that certain other animals are not free from sane man's worst vices—vices which, however, in most cases, they acquire directly from himself." Man, it thus appears, has not only made the melancholy discovery how to overthrow his own mental powers, and to produce upon his own brain a state of temporary delirium or insanity, but has the unenviable power of being able to produce the like dire effects upon the lower animals—"the suggestive fact being that alcohol and other stimulants produce the same kind of effects on the brain and mind, nervous system, and general bodily functions and conditions in other animals as in man." That the animals so nearly allied to man as the orang, chimpanzee, mandrill, and other apes and baboons, as well as the monkeys and the lemurs, should readily acquire the relish and crave for the supply of alcoholic liquors is not perhaps very surprising as their imitative faculty is very large; and this apparently unnatural liking might have been thought to have been the result simply of imitation; but this can hardly be the case with the horse, ass, mule, elephant, dog, rat, cow, cat, lion, bear, pig among quadrupeds, and with the common domestic fowl, turkey, parrot, starling, &c., among birds—all of which it appears have acquired this strangely perverted taste; nor is the intoxicating agent limited to any one form of liquor, but includes all the commoner kinds, such as ale, beer, porter and stout, whisky, brandy, rum, gin and arrack, with various wines, such as champagne; indeed, some manifest a decided partiality, as Sir Stamford Raffles mentions a pet Malayan sun-bear, frequently admitted to his table, which refused any wine but champagne, and adds—"the only time I ever knew him to be out of humour was on one occasion when no champagne was forthcoming."

* "*Mind in the Lower Animals, in Health and Disease.*" By William Lauder Lindsay, M.D., F.R.S.E., F.L.S., Honorary Member of the New Zealand Institute. Two Volumes. London: C. Kegan Paul & Co.

"The elephant frequently manifests its love of arrack, the spirit, no doubt, to which it has easiest access, and it is readily intoxicated therewith. The mandrill prefers porter and gin (Cassell). Certain monkeys and parrots are fond of rum (Buckland), and the coaita monkey and chimpanzee, and various apes, of wine (Cassell). Baboons are partial to beer (Brehm). The orang shows a preference for different kinds of wine. Other monkeys have a special liking for beer. The donkey, too, has acquired a *penchant* for beer (Watson), as has the hedgehog. Wood mentions a Newfoundland dog that regularly, after his daily swim, called at a certain beershop for his pint of beer. Even a pet starling became "very fond of wine and spirits." From these statements it is not to be inferred that particular species or genera of animals have a partiality for special forms of spirits. The inference, rather, is simply that the individual animals mentioned display a fondness for those forms of alcohol which are of readiest access.

"Illustrations of what appears to be, but may not necessarily be, a less discriminating appetite for all kinds of alcoholic fluids, are to be found in such facts as the following. A Borneo orang, mentioned by Buffon, would 'eagerly drink all sorts of wine, particularly Malaga.' An Exmoor pony was a 'horrid toper, and drank all kinds of liquor with great relish. It could drink a glass of whisky without spilling a drop, and was passionately fond of oatmeal plentifully soaked in porter.' A sooty mangabey (monkey) 'had acquired a good number of bad habits. Among these was an ardent thirst for all manner of intoxicating drinks.' A racoon showed 'a great partiality for intoxicating liquors, especially those that are sweet;' while an orang also evinced 'a great partiality for all kinds of strong drink.'

"Various eccentricities of an acquired or artificial, morbid or perverted, taste or appetite are exhibited in the form of as striking *dislikes* of certain beverages, as of likings to others. Thus a cat that was irresistibly attracted by porter refused her more natural and innocent aliment—milk. A chimpanzee had a liking for wine, and could judge its quality like a human connoisseur, but it had an equal dislike for spirits (Cassell). A dog that lived at a brewery 'was so passionately fond of drinks that he would turn away disdainfully from biscuits or sugar, but would swallow any stimulant greedily.'"

Although it seems that in some instances the first effect of imbibing alcoholics is to inspire a dislike, or even disgust; yet if the amount at first administered be small, the nausea does not appear to be much felt, and the taste gradually becomes formed; afterwards the animal seeks every opportunity of gratifying it.

"The horse is represented as enjoying its ale. Fowls show obvious satisfaction when their corn is steeped in spirits. The tipsy ape is said to enjoy its tipsiness (Houzeau); and there are many other animals that take a visible delight in other forms of dram-drinking.

"A certain Parisian dog, we are told, 'drew his half-pint of kirsch every day, and, not content with that, would go from table to table (of a restaurant) to try for more.' A Borneo orang drank a bottle of Malaga wine 'to the last drop,' having himself uncorked the bottle (Buffon). Not a few animals, then, readily become, when the temptation is thrown in their way, habitual toppers, tipplers, or drunkards.

"Frequently the love of alcoholic fluids becomes inordinate and uncontrollable. Thus we are told of a cat for which 'porter had a fascination that she could not withstand.' Wary rats 'drink themselves dead drunk from spirit casks whenever they get an opportunity' (Wynter). The ape is undeterred from a carouse by punishment or prohibition. Of very few animals that once betake themselves to the use of alcoholic stimulants can it be said, as was said of a certain pet starling, that 'he knew when he had had enough' of the wine

and spirits, of which he was, nevertheless, very fond. In the majority of cases the animal indulges its liking till insensibility, unconsciousness, helplessness supervene. Just as in human *dipsomania*, no sort of personal consideration prevents the gratification of the morbid appetite. All the usual caution, love of life, fear of danger, affection for young, dread of punishment, are forgotten; all experience of capture or of suffering goes for nothing. The propensity becomes inveterate, incurable: it is a veritable form of *moral insanity*."

If, however, the dose of alcohol be large, it may induce such a deep dislike that no amount of coaxing, or even of force, can prevail upon the animal thus once tricked to be again made a victim of the folly and brutality of man. A few years since there existed in the south of London a well-known dog, a common cur terrier, which had been subjected to this kind of treatment: in a drunken freak of its master and his companions, they poured down the throat of the dog a quantity of strong ale, which produced intoxication; but never afterwards could the animal be induced to enter a public-house, and would if taken near one run howling past at the top of its speed. Dr. Lindsay mentions the case of a fox-terrier which had a glass of whisky forced down its throat by a number of sailors; the dog became furious and dangerous for the moment, and could never afterwards bear the smell of drink again, even in men his usual companions and play-fellows. It, however, more commonly happens that that liking for stimulants is begotten by a foolish and mistaken kindness on the part of the owner of the animal; a man having a favourite dog much with him gives it to drink from his cup: the dog, although probably not relishing the liquor at first, takes it out of love to his master, as does unquestionably the coster's donkey, who may often be seen taking a draught from the same pot from which his master has drunk: and thus in animal, as in man, the evil habit is engendered—by slow degrees it is true, but they are not the less sure in their effects. On this point Dr. Lindsay remarks—"Dogs, monkeys, horses, elephants and other animals are not unfrequently deliberately *taught to tittle* by man, the unfortunate brutes taking to the practice with a relish or gusto that delights their senseless tutor. Thus Le Vaillant tells us how certain baboons in this way became regular toppers; and Watson how a certain elephant was treated to an evening glass of spirits along with its master."

We quote from Dr. Lindsay's important work the following instructive passage:—

"The *effects* of alcohol on mind and body in the lower animals are of the same kind as those in man, varying in degree from simple transient, probably pleasurable, excitement from small doses up to sudden or speedy death from inordinate quantities. As in man, the effects vary according not only to the dose or quantity, but according to the individual, the species and genus, to whom or to which it is administered. Thus from the same amount of the same form of alcohol, given under apparently the same circumstances, one animal may

remain quiet and passive, while another becomes mettlesome and dangerous; one may commit only a series of ludicrous absurdities of conduct, while another develops a fury, ferocity, or destructiveness that are highly dangerous to themselves, to other animals, or to man.

"The more marked effects of alcohol on the economy of the lower animals include the following:—

"1. Simple passing *excitement*, which may, however, be variously exhibited in the form either of good or bad humour; the animal may become morbidly facile, so that capture becomes easy, or irascibility is developed, rendering it an unpleasant or unsafe associate. In the parrot wine develops unusual loquacity or garrulity; in the horse, viciousness—it becomes unmanageable by reason of its kicking and biting (Pierquin).

"2. The excitement may be more permanent and more intense—for instance, in the case of elephants or other animals purposely rendered furious by wine or other stimulants in order that they may minister to man's sports or other requirements. Thus we are told that Ptolemy Philopater, ages ago, massacred Jews in the hippodrome of Alexandria by causing them to be trampled to death by elephants rendered furious by wine and frankincense. And we have already seen that animals intended to fight with each other for man's amusement are endowed with the necessary amount of courage and combativeness by the use of various forms of alcohol.

"3. Reactionary *depression*, mental and physical, following excitement, constituting what is quite as really a dismal mood or humour as in man, associated probably with such bodily feelings as headache. After drunkenness come the dysmoods in the baboon as in man (Brehm), and it is possible, nay probable, that in this condition there is frequently a feeling of self-loathing on the part of an animal—e.g., especially in dogs that have after a single experience of alcohol resolutely renounced its use even when offered in the most tempting forms.

"4. *Stupidity* in various degrees and forms, including incapacity to provide for safety or appreciate danger. This stupidity involves many serious, even fatal, *errors* of prudence or policy, as in the case of a drunken monkey rashly attacking a shark (Cassell).

"5. Eccentricities of *motion*—in the form so common in inebriate man—of reeling or staggering.

"6. *Stupor* or stupefaction—of all degrees up to the condition known in man as 'dead drunk'—insensibility, unconsciousness, equal loss of thought, feeling, will, memory, and motion; a state of abject, prostrate helplessness, in which the unfortunate animal becomes the prey of man, its other enemies, or its own fellows.

"7. The series of phenomena, bodily and mental, known in man as *alcoholism*—as produced experimentally, for instance, by Magnan, and including probably a condition analogous to or approaching *delirium tremens*.

"8. *Arrestment* of physical *growth*. Thus gin is administered to dogs to check and dwarf bodily growth (Ross).

"9. Various forms of *insanity*, including especially, as already stated, *dipsomania*.

"10. *Death*, more or less speedy. Thus Du Chaillu mentions drunkenness followed by death in a young chimpanzee from inordinate brandy drinking; and Büchner describes an orang that 'died through drinking up a bottle of rum which he had stolen, uncorked and emptied.'

"Moreover, the effects of the use or abuse of alcohol in the lower animals include the same kind of general, functional, and organic changes as in man, the same morbid appearances after death. Thus Dr. Richardson, who has so ably and so long studied all the phenomena of alcoholism in man and other animals, including those which are revealed *post mortem*, says, 'In the lower animals I have been able to witness this extreme vascular condition of the lungs,' the result or concomitant of the first stage of alcoholic excitement—that

of exhilaration—a condition of congestion that is universal throughout the body. In this first or exhilarative stage in birds and mammals there is during life the same rise of temperature of body that occurs in man; while in the third stage of insensibility there is, as in him, an unnatural fall of temperature.”

The interesting and curious evidence gathered together from many sources by the industry of Dr. Lindsay, proves that the baleful effects of alcohol are not confined to man, but that the so-called lower animals may also be brought to suffer from them; but it must not be forgotten that while man willingly and voluntarily subjects himself to alcoholism, the instances are very rare indeed in which any other animal is found thus bringing itself within the range of alcoholic fluids; the perverted ingenuity, sometimes indeed combined with a mistaken kindness on the part of man, is the moving cause of drunkenness in the animal kingdom as well in the human race.



Proceedings of the British Medical Temperance Association.



THE ANNUAL MEETING.

THE Fourth Annual General Meeting of the British Medical Temperance Association was held on Thursday, May 27, in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square. The President, Dr. B. W. Richardson, F.R.S., took the chair at four p.m.

The Annual Report was read by the Honorary Secretary, Dr. J. J. Ridge, as follows:—

It is with much gratification that the Council of the British Medical Temperance Association are able to report very marked progress during the year 1879-80. At the Third Annual General Meeting it was announced that there were 91 members and 3 Associates: during the past year 150 Members and 11 Associates have been enrolled: 2 Members have died, namely, Dr. Bradshaw, of Weston-super Mare, and Dr. Heeney,

of Belfast, and 3 have withdrawn from the Association: hence, at the present time, there are 236 Members and 14 Associates. Such progress is most encouraging, and yet it can only be regarded as a good beginning. There are many more medical men who practise total abstinence, and the Council would respectfully urge every member to use their influence with any such to induce them to join the Association. The Honorary Secretary will be glad at all times to receive the name of any medical abstainer, in order that he may write to him.

The President's inaugural Address at the Annual General Meeting in May last, was printed and sent by post to nearly 18,000 practitioners in the United Kingdom, together with an invitation to join the Association, and the large increase in our membership is chiefly due to this effort. The

cost of this distribution was defrayed by a few generous friends of the cause; a list of these will be published with this Report, together with others who assisted in defraying the cost of the breakfast at Cork hereafter referred to.

After the Annual General Meeting the members and friends dined together at the Langham Hotel, and entertained several distinguished visitors, among whom were Lord Denman, Sir Wilfrid Lawson, Admiral Baillie Hamilton, Canon Duckworth, Dr. Gladstone, F.R.S., and Mr. John B. Gough. This dinner was largely noticed by the press, and the Association is much indebted to the writers in the papers, both professional and lay, for the publicity given to the meeting, and for their favourable reports.

During the year three quarterly meetings have been held in the rooms of the Medical Society of London, in addition to the present Annual Meeting. These meetings were held in July and November, 1879, and in February, 1880, and were well attended both by members and visitors. The following papers and communications were read at these meetings:—

PAPERS.

“*Précis and Review of recent Experimental Researches on the Toxic Power of the Alcohols*, by Drs. Dujardin-Beaumetz and Audigé;” read by Dr. Norman Kerr.

“*The Alcohol Question: a Reply to Objections in High Quarters*;” read by Dr. Alfred Carpenter.

“*On some Substitutes for Alcohol in the treatment of Fevers*;” read by Dr. F. Vacher.

“*The Relation Medical Men sustain to the subject of Total Abstinence, and the influence they possess to secure its adoption*;” read by Dr. C. J. Russell.

“*The Use of Alcohol during the Menstrual Period*;” read by Dr. Norman Kerr.

COMMUNICATIONS AND EXHIBITS.

An address on the employment of Alcohol as a Medicine, and on Methy-
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as a substitute for it in this respect, by the President, Dr. B. W. Richardson, F.R.S., who also exhibited the Sphygmophone, the Audiometer, and various forms of artificial tympanums.

Specimens shewing the deleterious influence of minute quantities of alcohol on living vegetable cells were exhibited by Dr. Ridge.

In addition to these meetings held in London, a Branch Meeting of the Association was held in Liverpool, in September, 1879, in the theatre of the Medical Institute, and was attended by between forty and fifty medical men. Dr. W. Carter presided, and the following papers were read: “*Alcohol as a Medicine*,” by Dr. Carter; “*Is Alcohol a Stimulant or a Narcotic?*” by Dr. Howie; and “*Is Physiology Final?*” by T. Carson, Esq. The Honorary Secretary attended the meeting as a deputation from the Council, and exhibited diagrams showing the influence of alcohol on the pulse. An interesting discussion ensued.

In August, 1879, the British Medical Temperance Association entertained the President, the President of Council, the Local Secretaries, and over one hundred members of the British Medical Association, at breakfast, during the annual meeting of the latter Association at Cork. Dr. Norman Kerr presided, and the meeting was addressed by Professor O'Connor, Dr. Alfred Carpenter, Professor McNaughton Jones, Mr. Ernest Hart, Dr. Ringrose Atkins, Dr. Thompson, Dr. Holdsworth, and others.

Individual members of the Council and Association have taken a large share during the year in spreading the principles of total abstinence by means of addresses at meetings and conferences, by letters and articles in the medical, daily, and temperance papers, and in other ways, and thus have largely assisted in promoting a more rational view of the influence of alcoholic liquors than has hitherto prevailed. The Council regard with hope the prospect of the ensuing year, and believe that the numbers and influence of the Association may and will be still further increased.

BALANCE SHEET 1879-80.

DR.	£	s.	d.
May, 1879. To Balance in hand	30	11	7
„ Sale of Dinner Tickets . . .	25	14	6
„ Subscriptions . . .	57	4	0

£113 10 1

CR.	£	s.	d.
By <i>Medical Temperance Journals</i>	22	8	6
„ Printing and Stationery . . .	12	2	0
„ Advertising	2	9	4
„ Postage	7	16	9½
„ Hire of Rooms, and Attendance	8	18	0
„ Dinner at the Langham Hotel	53	1	6
„ Medical Directory	0	10	0
„ Minute Book	0	2	0
„ Balance in hand	6	1	11½

£113 10 1

Examined, with the Vouchers, and found correct,

H. LANKESTER,

JOHN ADAMS RAWLINGS.

May 24th, 1880.

Resolved,—“That the Report and Balance Sheet, as now read, be adopted.”

ALTERATIONS OF CONSTITUTION.

Moved by Dr. Norman Kerr, seconded by Dr. Scatliff, and carried unanimously,—“That Article III. of the Constitution be amended so as to read thus,—‘an annual subscription of not less than five shillings.’”

Moved by Dr. B. W. Richardson, seconded by F. J. Gray, Esq., and carried unanimously,—“That Article IV. be amended so as to read thus,—‘and a Council of twenty-four members, twelve residing in London and twelve in the rest of the United Kingdom.’”

Dr. Grindrod was then proposed as a Vice-President, and the following gentlemen as additional Members of Council in accordance with the foregoing resolution, subject to their consent being given:—London: S. S. Alford, Esq.; Dr. Drysdale; P. Y. Gowland, Esq.; Dr. Morton; Dr. Gilbert Smith; Dr. Spencer. Country: Dr. Aldridge, Southampton; Dr. Ringrose Atkins, Waterford; Dr. Batten, Gloucester; Dr. Bishop, Edinburgh; Dr. Carmichael, Glasgow; Dr. Christie, Glasgow; Dr. Holdsworth, Wakefield; Dr. Eyton-Jones, Wrexham; Dr. Miller, Edinburgh; J. J. Ritchie, Esq.; Leeke; Dr. Brice

Smith, Belfast; W. J. Square, Esq., Plymouth.

Two auditors were then elected for the year 1880-1, namely, W. J. Coryn, Esq., and W. H. Kesteven, Esq. The following officers were declared duly elected in accordance with the Constitution, for the ensuing year ending April 30, 1881: *President*, Dr. B. W. Richardson. *Vice-Presidents*, Dr. Carter, Dr. Collenette, H. Dixon, Esq.; Dr. Edmunds, Dr. Grindrod, Deputy-Surgeon General Gunn, Dr. R. J. Lee, Dr. McCulloch, Dr. Munroe, Dr. Richmond, Dr. Thompson. *Treasurer*, Dr. Scatliff. *Honorary Secretary*, Dr. Ridge. *Members of the Council*. London: S. S. Alford, Esq.; H. Branthwaite, Esq.; Dr. J. Dixon, Dr. Drysdale, P. Y. Gowland, Esq.; Dr. Norman Kerr, Dr. Longstaff, Dr. Morton, Surgeon-Major Poole, Dr. Spencer, Dr. H. W. Williams. Country: Dr. Aldridge, Dr. Ringrose Atkins, Dr. Batten, Dr. Bishop, Dr. Carmichael, Dr. Christie, Dr. Eyton-Jones, Dr. Holdsworth, Dr. Miller, J. J. Ritchie, Esq.; Dr. Brice Smith, W. J. Square, Esq. *Auditors*: W. J. Coryn, Esq., and W. H. Kesteven, Esq.

A Declaration was read, which had been drawn up by Drs. Richardson and Ridge at the request of the Council, and which is to be submitted to the Second International Temperance

Congress at its meeting in Brussels in August next. A discussion ensued in which Drs. Clark, Drysdale, Edmunds, Kerr, Longstaff, Richardson, Ridge, and Scatliff took part, and the Declaration was adopted with certain amendments. Its object is to convey to that assembly an idea of the objects and principles of the Association, and the general views of most of its members on the use of alcohol as a beverage and as a medicine. It contains a strong protest against all avoidable use of alcohol as a medicine. It states pointedly the conclusions that alcohol is unnecessary to health, is not a true food, and does not assist in the performance of work either bodily or mental. It gives evidence of the injury done to health and life by alcoholic drinks, and, while admitting that adulterations increase the evil, it avows the positive conviction, in opposition to a widespread foreign view, that the harm can be and is chiefly due to the common, or ethylic, alcohol contained in the various drinks. The full text of the Declaration cannot be published until after it has been presented to the Congress.

Dr. Edmunds then read a paper entitled "Notes of Cases treated at the London Temperance Hospital," after which Dr. Richardson read a "Report on the use of Ethylate of Sodium (Sodium Alcohol) in the treatment of nævus and other local affections."

A letter was read from Dr. Eyton-Jones, confirming the value of Sodium Alcohol as a caustic, and, after votes of thanks had been given to the President and readers of the papers, the members and friends adjourned to the Temperance Hospital at Gower

Street. Here they were met by several members of the board and the medical staff, and inspected the wards. A visit was subsequently paid to the new building just erected in the Hampstead-road, which was thoroughly viewed in every detail under the guidance of Dr. Edmunds.

Donations for circulation of Dr. Richardson's Inaugural Presidential Address to the Profession (18,000 copies sent); and for breakfast to the members of the British Medical Association at Cork (per Dr. Norman Kerr):—

	£	s.	d.
Samuel Morley, Esq., M.P.	25	0	0
National Temp. League ...	25	0	0
W. I. Palmer, Esq., Reading ...	15	0	0
The Hon. Lord Provost Collins, Glasgow ...	10	0	0
John Hope, Esq., W.S., Edinburgh ...	10	0	0
C. J. Leaf, Esq., London	10	0	0
Henry White, Esq., Waterford ...	5	0	0
Joseph Peters, Esq., London ...	5	0	0
J. E. Mathieson, Esq., London ...	5	0	0
Geo. Williams, Esq., London ...	5	0	0
Geo. J. Leon, Esq., London	5	0	0
Geo. Palmer, Esq., M.P....	5	0	0
Ebenezer Pike, Esq., Cork	5	0	0
J. C. Newson, Esq., Cork ...	3	0	0
Dr. Holdsworth, Wakefield	1	5	0
Dr. J. M. McCulloch, Dumfries ...	1	0	0
Henry Dixon, Esq., Watlington ...	0	10	0
S. L. Tilley, Esq. ...	0	5	0

NEW MEMBER.

Dr. Griffiths, Lampeter.

NEW ASSOCIATES.

G. Scarr, Esq., B.A., Dublin.

| J. A. Scott, Esq., Mercers Hospital.



Miscellaneous Communications.

ON THE TOXIC PRINCIPLES PRESENT IN CERTAIN KINDS OF WHISKY.*

By C. A. CAMERON, M.D., S.Sc.C., *Cambridge*; M.K.Q.C.P.I., F.I.C., *Fellow and Professor of Hygiene and Chemistry, Royal College of Surgeons in Ireland*; Superintendent Medical Officer of Health for Dublin; President of the Society of Metropolitan Officers of Health, &c.

WHISKY of excellent quality is easily procurable at fair prices in respectable shops in all the large, and in many of the small, towns of Ireland; but the article vended under the name of whisky in most of the low class of public houses—especially in villages—in booths and stands at race-courses and fairs, and in roadside *shebeens*, is, as a rule, of very inferior quality and unfit for use.

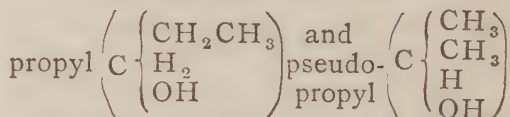
My position as public analyst for the greater number of Irish counties has caused a large number of specimens of whisky to be submitted to me for examination, chiefly under the provisions of the "Sale of Food and Drugs Act, 1875," and Act amending same, 1879. The general results of this examination are, perhaps, worth recording.

The term alcohol is commonly applied to a liquid which constitutes the intoxicating principle of wine, beer, brandy, and other *spirituous* liquors. It is, however, used by the chemists generally in relation to a large class of bodies which have a constitutional resemblance to the common alcohol. There are several groups of alcohols, and ordinary alcohol is classed with those termed monatomic, of which twelve have been discovered or formed up to the present.

The simplest in composition of the monatomic alcohols (or of any alcohols) is wood spirit, or methyl alcohol. It is composed of one atom of carbon,

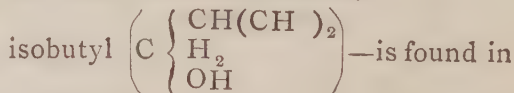
four of hydrogen, and one of oxygen (CH_4O). Next to it in simplicity of constitution is common or vinic alcohol, also termed ethyl alcohol ($\text{C}_2\text{H}_6\text{O}$). This compound, mixed with water, constitutes spirit of wine.

Ethyl alcohol is formed from the sugar of certain fermenting liquids; and at the same time one or more of three other alcohols are often formed, in quantities varying according to the nature of the fermenting material. These alcohols are—propyl, or trityl alcohol ($\text{C}_3\text{H}_8\text{O}$), butyl alcohol ($\text{C}_4\text{H}_{10}\text{O}$), and amyl, or pentyl alcohol ($\text{C}_5\text{H}_{12}\text{O}$). There are two forms of propyl alcohol—normal

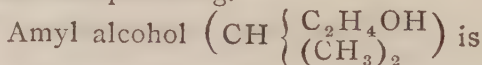


The former is found in most fermenting liquors containing sugar. It is a liquid which boils at 96°C .; its specific gravity is 0.8205 at 0°C .; its odour is rather agreeable, but its flavour is very pungent.

Butyl alcohol exists in four forms, one only of which—namely,



certain fermented liquids. Its specific gravity is 0.8032 at 18°C ., and it boils at 110°C .; its odour is somewhat overpowering.



an oily liquid which boils at 130°C ., and has a specific gravity of 0.825 at 0°C . Its odour is oppressive and per-

* Read at a meeting of the Society of Metropolitan Officers of Health, Dublin, 14th April, 1880.

sistent, and its flavour is acrid, burning and choking. The inhalation of the vapour excites coughing.

In addition to these alcohols, which are formed together with vinic alcohol in the manufacture of brandy, whisky, and similar liquids, minute quantities of other alcohols, including the varieties termed hexyl ($C_6H_{14}O$) and octyl ($C_8H_{18}O$) are developed, but they are not of much importance, owing to their minuteness.

As ethyl alcohol boils at $74.4^{\circ}C$. ($173^{\circ}F$. it is the first to come over when fermenting liquids are distilled. The other alcohols are the last to come over; consequently the last portions of the distillates in the whisky and brandy distilleries contain by far the greater portion of the higher terms of the alcohol series. The very last portion (termed in the whisky distilleries *faints*) is in great part composed of a liquid termed *fusel oil*. Now fusel oil is a very variable article. It is a compound containing chiefly water, ethyl alcohol, amyl alcohol, but the other alcohols just mentioned are present in it in large proportions, as are also various other compounds.

Although the higher terms of the alcohol series have much higher boiling points than ethyl alcohol, yet in practice it is found that they distil over in part with the latter. If the distillation is carried on at too high a temperature, a still greater proportion of amyl, propyl, and butyl alcohols passes over. This is particularly the case in the preparation of the illicit spirit termed *potteen*, and which I have found to contain very large amounts of amyl alcohol.

From the results of my examination of many hundreds of samples of whisky sold in Ireland, I have come to the conclusion that the sale of whisky containing the alcohols rich in carbon is exceedingly common. Let us see what are the effects produced by these alcohols upon the animal economy. I shall only here consider the properties of propyl, butyl, and amyl alcohols.

Eulenberg* gave forty drops of

amyl alcohol to a kitten; in seventeen minutes the animal's heart began to palpitate violently, and in twenty-two minutes there was complete anæsthesia. The animal did not quite recover till the following day. According to Rabuteau* one part of amyl alcohol in fifty parts of water causes anæsthesia in frogs in twenty minutes, death supervening two hours later. He found that butyl and propyl alcohols were possessed of strong toxic powers. Dujardin-Beaumetz made numerous experiments in order to determine the toxic action of the alcohols. He considers that 8 grammes (about $\frac{1}{4}$ oz.) of absolute ethyl alcohol per kilogramme (2.2 lbs.) of the weight of a man's body a poisonous dose. The poisonous dose of other alcohols, under similar circumstances, is stated to be 1.7 grammes of amyl alcohol, 2 grammes of butyl alcohol, and 3.9 grammes of propyl alcohol. I am disposed to consider that Dr. Dujardin-Beaumetz has certainly not under-estimated the relative poisonous effects of amyl and ethyl alcohols. Dr. Cros,† of Strasbourg, made experiments on himself in order to determine the toxic action of amyl alcohol. He found that a dose of from 10 to 15 centigrammes caused, in a few minutes, intense frontal or temporal headache, and a sense of constriction; 4 grammes caused a general depression of the system, in addition to cerebral symptoms; difficulty in standing, meteorisms, and diarrhoea occurred. From 8 to 16 grammes caused a jerky, rapid, profound respiration, intense cerebral symptoms, repeated vomitings, and a profound depression long continued. It is doubtful if symptoms equally severe would be produced by doses of ethyl alcohol only five times greater. Injected into the stomach, amyl alco-

* Rabuteau. Ueber die Wirking des Æthyl, Butyl, und Amyl Alkohols. Schmidts Jahrbuch. Band CXLIX. 233. 1871.

† Action de l'Alcool Amylique sur l'Organisme (Thèse pour de Doctorat en Médecine). Par Cros, Strasbourg. 1863.

* "Gewerbe Hygiene." 187 9. P. 440

hol causes intense reddening, and sometimes complete removal of patches of the mucous membrane of that organ. Upon the mucous membrane of the mouth and throat it exercises a similar action.

Of the few reliable determinations of the amount of amyl alcohol in whisky one is by Dr. Dupré, who found in a specimen of Scotch whisky 0.19 per 100 parts of ethyl alcohol. This quantity, if it represent only the effect of five times its weight of common alcohol, could not be very poisonous. I am certain, however, that the low qualities of whisky sold in Ireland often contain from 0.1 to 0.3 per cent. of amyl alcohol; and I am further of opinion that the deleterious action of fusel oil is not to be measured merely by its intoxicating effect upon the system. Rabuteau, who repeated and modified some of Cros' experiments made upon himself, found that the minute quantity of ten centigrammes of amyl alcohol, dissolved in a litre of beer, produced dryness of the throat, *d'ivresse triste*—which perhaps may be best translated as drunken melancholy—and occasionally diarrhoea. Now, such symptoms could hardly be produced by fifty centigrammes of absolute common alcohol, added to half a litre of beer. The results of Rabuteau's experiments appear to show that the toxic properties of amyl alcohol are fifteen times greater than common alcohol.

When whisky is properly prepared it is almost perfectly free from a liquid termed *aldehyde*, and from empyreumatic oils. The alcohols are all convertible into acids by oxidation—ethyl alcohol into acetic acid, amyl alcohol into valeric acid, propyl into propionic acid, &c. There are, however, intermediate bodies formed before alcohol becomes an acid, and these bodies are termed aldehydes and ketones. The aldehyde of common alcohol is formed by the action of a molecule of oxygen upon two molecules of alcohol ($2C_2H_5O + O_2 = 2C^2H_4O + 2H_2O$). Common or ethylic aldehyde is a volatile liquid, possessing a pungent, suffocating

odour, and a rather disagreeable flavour. It has a very low boiling point—namely $22^\circ C$.

Dr. Magnus Huss found that two or three centigrammes of empyreumatic oil from badly-prepared alcohol caused a burning sensation in the stomach. A larger dose than 20 centigrammes (about 3 grains) could not be borne. Professor Isidore Pierre, of Caen, has pointed out the toxic properties of aldehyde. This substance acts powerfully upon the animal economy.

Aldehyde generally occurs more or less abundantly in the first distillate in the preparation of beetroot and potato spirit. Krämer and Pinner attribute the formation of the aldehyde to the action of the oxygen with which the alcohol comes into contact in passing through the charcoal filters. On the other hand, Kekulé considers that it is produced by the oxidising action of the nitrates which are generally largely present in the fermenting liquids. It is undoubtedly present in the malt washes of the whisky distillery, generally in insignificant quantity, but sometimes in large proportion, owing to the bad management of the fermentation process. We know that occasionally oxidation, to the extent of producing acetic acid, occurs in the worts.

In some experiments which I made five years ago in distilling grain spirit to test the capability of a new form of still, I found the quantity of aldehyde coming over in the first rush of spirit so large that it almost took my breath away when I stood near the stream of spirit issuing from the still.

I am disposed to believe that it is to the presence of aldehyde, as much as of amyl alcohol, that the acrid flavour of new, and especially of badly-prepared, whisky is due. The remarkable improvement which whisky undergoes by storage is attributed to the conversion of the amyl alcohol into pleasantly-flavoured products. It is probable that it is disposed of in this way, though the experimental proofs in support of this theory are weak. Nothing is, however, more likely than that the aldehyde dis-

appears on storing the whisky in wooden vessels, owing to its tendency to become oxidised, and the very low temperature at which it boils—namely, 22° C., or 71·6° Fahr. The pure compound is so volatile that it is difficult to preserve it in warm weather.

I have examined a large number of specimens of whisky collected by the constabulary in various parts of Ireland—chiefly at fairs, on race-courses, and in low public-houses. A small proportion—not more than 10 per cent.—were of superior or fair quality. The remainder consisted of two classes of low quality—firstly, new whisky; secondly, whisky composed more or less of what is termed patent-still whisky, and which is but little superior in flavour to spirit of wine, or to the so-called *silent* or neutral spirit imported from the Continent, which is merely a mixture of pure alcohol and water.

Patent-still whisky is chiefly manufactured in Scotland, and is largely imported into Ireland for the purpose of being mixed with Irish pot-still whisky. The former has almost no flavour; the latter is rich in flavouring ingredients, and therefore the two whiskies make, to use a trade term, a good “blend.” Patent-still whisky undergoes no important improvement by age, as the pot-still whisky does. Patent-still whisky may be drunk just as well when new as when old, but the pot-still variety contains so many ingredients, and in such large quantities, when new, that it is not safe to use it until it has been stored for two or three years. In order to improve whisky by age it is necessary that it should be stored in wooden vessels. In the course of two or three years a large amount of alcohol evaporates through the pores of the wooden vessels in which it is contained, and whisky which at first was raw, acrid, and pungent, is found to be mild, well-flavoured, and fragrant. These changes are generally attributed to the oxidation of the amyl alcohol,* which is always to be

detected in freshly-made whisky. I believe that to a very sensible extent they are due to the disappearance of aldehyde out of the whisky.

I have subjected to examination a large number of samples of new whisky for the purpose of ascertaining the presence of aldehyde, and in the great majority of them this liquid was found in very large quantities.

There is, so far as my experience enables me to assert, a very large amount of new whisky sold in Ireland. This liquor is unwholesome, chiefly on account of the quantities of fusel oil, and, I would add, aldehyde, which it contains. By storing this whisky for two or three years it would, for the most part be deprived of its noxious qualities by the escape of aldehyde and empyreumatic volatile oils, and by the conversion of the alcohols other than ethylic into fragrant ethers and acids. Much of this whisky would always remain bad, though improved somewhat by age, owing to being prepared from bad or musty grain, or from worts in which the acetic fermentation had proceeded to an injurious extent. The ill-effects of the raw and perhaps otherwise bad whisky sold at fairs, races, and other places, are testified to by thousands of observers. Persons have frequently told me that they have been made ill by drinking a single glass of whisky procured in country places, at races, &c., and which they found acrid and burning to the taste. Strong men are known to become intoxicated by drinking a couple of glasses of whisky of bad quality, though they could consume three times the quantity of old mild whisky with apparent impunity. All through Ireland it is believed that very small quantities of the low qualities of whisky suffice to produce intoxication; and the fierce fights which occur, even amongst friends, at fairs, races, &c., when large quantities are absorbed, testify *forcibly* to the “maddening” effects of new whisky.

In 1874, when examined before a

ethyl are stated to be present in the old brandies and whiskies.

* Valerates and acetates of amyl and

Committee of the House of Commons, relative to the working of the Acts relating to the adulteration of food, I stated that it was desirable to prevent the removal of whisky for consumption from the bonded warehouses until it was two years old. Mr. O'Sullivan, M.P. for the county of Limerick, introduced into Parliament during its last session a Bill for the purpose of preventing whisky being removed from bonded warehouses for consumption until it was at least one year old. The Bill was withdrawn after the first reading, owing to the lateness of the session, but it is to be hoped that it may be re-introduced early in the new Parliament. Such a measure is urgently required.

The following case—though, no doubt, it is an extreme one—will serve to show the ill-effects which whisky containing much fusel oil produces on those who habitually use it. A country gentleman sent me a specimen of liquid with a request that I should examine it, in order to ascertain whether or not it contained any “ingredient injurious to health.” I found that it was poteen, or illicit whisky, 25° over proof. It was slightly opaque, and very pungent in odour, and had a strong flavour. There is an impression abroad that poteen contains less acrid matter than the whisky made in legitimate distilleries, but this sample did not sustain the reputation of poteen in this respect. Indeed, I have met with samples of poteen so acrid that it is surprising how anyone could relish such stuff. The amount of amyl alcohol in the poteen sent to me for examination proved to be 0·23 per cent. It also contained a large quantity of aldehyde. I reported that it was a spirit quite unfit for use. The gentleman called upon me, and I learned from him that he had been in the habit of drinking from two to three glasses daily of this liquid (for which he paid £1 per gallon!), being under the impression that it was a wholesome beverage. He had also given it to his wife and sons. Some time after they began to drink the poteen the members of the family gradually began to suffer from various

symptoms, affecting both mind and body. In the case of the parents these symptoms assumed within six months a serious aspect. It only then occurred to them that the poteen might possibly have had something to do with these changes in the condition of their health, and, accordingly, the specimen of it was sent to me for analysis.

The gentleman when he visited me was in a semi-demented condition, and his wife, whom he brought with him on his second visit, was perfectly insane. She privately admitted to me that she had taken more of the poteen than her husband was aware of, and that on some days her consumption of the liquid amounted to five glasses. She loudly denounced her own conduct, declared that she had ruined her husband by encouraging him to drink the stuff, and expressed her belief that she would be punished for her sin in the next world. Both of these unfortunate persons were much emaciated, though the gentleman said that until he had begun to consume the poteen he had been very stout. Dr. J. K. Barton, their medical superintendent, has kindly given me the following statement in reference to the condition of these unfortunate persons:—

“In reply to your inquiries regarding the symptoms which I observed in the cases of Mr. and Mrs. — while they were under my care, I may say that, those common to both patients were—great and unreasonable depression, also delusions, rather with regard to the importance or unimportance of things than with regard to their existence; those that were peculiar to each—in Mr. H.’s case there was a brown loaded tongue, very irregular bowels, and capricious appetite, sleeplessness and excessive restlessness which compelled him to get up from table and walk round the room two or three times during the dinner time—in fact, he could scarcely keep quiet for a moment. The symptoms which Mrs. H. complained of most was a pain in the back of her head and neck; she was quiet, but with far more settled melancholy, which had a

religious tinge, of which her husband was quite free."

Whisky is rarely adulterated in Ireland (except with water) unless the "blending" of patent-still with pot-still whisky is to be considered an adulteration. The alleged adulteration of whisky with bluestone, sulphuric acid, petroleum, methylated spirit, and various other deleterious substances, has not been substantiated. A little flavouring matter is generally added to even the oldest and best whiskies, but not for a fraudulent purpose. I have met with sweet spirits of nitre in two specimens of whisky. Burnt sugar is used to give whisky a pink colour, in imitation of the hue which it acquires by being long stored in sherry casks. A liquid composed of wine, acetic ether, and tincture of wine of prunes, or other fruit, is sometimes added to new whisky in order to cause it to acquire somewhat the flavour of old whisky.

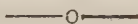
Whisky is sometimes sold so weak as to be from 25° to 55° under proof.

The following letter addressed to me by Mr. Bell, Principal of the Chemical Department of the Inland Revenue, shows that whisky is not much adulterated:—

"The result of our experience entirely corresponds with your own, not merely in former years, but during the past one. This will be seen from the following extract from my Annual Report recently presented to Parliament:

"Complaints of alleged serious adulteration of whisky by publicans in Ireland, especially at fairs, not infrequently are brought under the Board's notice by magistrates and others living in different parts of the country. Usually the supervisor of the district is ordered to send up samples to test the question. Several samples in the most recent case were obtained from publicans selling whisky at Ballyshannon fair. These were carefully analysed, but no evidence of adulteration was obtained, with the exception in one of the samples of the presence of a trace of pungent matter resembling cayenne pepper.

"The cause of the suspicions we believe in a great measure to be the use of a new spirit containing an excess of fusel oil and other natural impurities."—*Medical Press and Circular*.



CLINICAL LECTURE ON THE OCCASIONAL SERVICE OF ALCOHOL IN THE TREATMENT OF PNEUMONIA.

Delivered at the Westminster Hospital, by OCTAVIUS STURGES, M.D., F.R.C.P., Physician to the Hospital.

IN the observation of pneumonia, so soon as that remarkable event has happened which we recognise as the crisis, we are at once relieved of the anxiety which, up to that time, no one can be without who is acquainted with the many phases and turns of the disease. We are reminded to-day by a case now under treatment that this supposed security for rapid recovery is not always valid. Upon this text, therefore, of a pneumonia of ordinary character and severity lingering far beyond its usual time,

we may conveniently consider in what degree and by what methods, if any, an affection such as this, which has suffered, perhaps, more than any other at the hands of the druggist, can be helped through its critical stage, shortened in duration, or assured against untoward accidents.

Sarah F—, a slight pale girl of eighteen, engaged in laborious work as a biscuit packer, ill-nourished and neglected, was admitted on the third day of a sudden illness presenting the ordinary symptoms of pneumonia.

Having gone to bed, that is to say, apparently well, and after the usual day's work, she awoke towards morning screaming from the severity of a pleural "stitch" of the left side, and had several shivering fits in succession. On admission the left lung, as to its lower half, yielded the proper signs of consolidation. The temperature was 104.4° ; pulse 120; the sputum rust-coloured; there was some herpes on the mouth, and scarce anything was wanting (except, indeed, flushing of the face) of that assemblage of symptoms which so unmistakably betokens pneumonia. From no real fear or necessity for what might be threatening, but only because the girl was low and miserable, she was given during the first two days four ounces of sherry daily. On the fifth day the crisis occurred, the temperature falling from 103° to 98° , or five degrees in twenty-four hours, and along with this the patient exhibited the usual signs of general revival.

It was at this juncture (and here is the point to be discussed) when pyrexia had disappeared, and the sounds of resolution were audible, that an event happened which is rare in pneumonia, but by no means without parallel, and in consequence of which the duration of the illness was at least doubled. Two days from the time of the crisis and almost in sight of convalescence a relapse occurred. The features became again depressed, the temperature rose, and the tongue, for the first time, became dry. And now, although the time was reached when properly the invaded lung should have been wholly free and pervious, it appeared upon auscultation that a solid patch still remained about the middle of the left lung, giving all the signs of consolidating as plainly as at first, but over a much smaller area. It was clear that the process of resolution had stopped short, or rather that in this bit of lung it had been altogether abortive. The unsealing of the lung by the clearing away of inflammatory products had been incomplete.

It is, I admit, a mere hypothesis, yet one which may fairly be ventured,

and which, as I have said, there are other cases to confirm, that this return of fever and prostration was directly due to this improper or prolonged retention of effete material; that the system, if we may so speak, began after a while to resent such retention. And the question I would ask is this, Was this misadventure, which retarded recovery for three weeks and caused a relapse which for some days seemed even more serious than the original illness, due to any fault of our own, which may be avoided next time? Supposing for instance, that, noting this girl's poverty and squalor, and seeing that she had little strength of herself to contend with pneumonia, we had continued the alcohol or had resumed it in some form, at such time as the crisis was expected, would that have made any difference? I think so.

As a matter of fact, you may remember (for what it is worth) that when this patch of consolidation and this second fever had lasted some days, we did venture upon alcohol, two ounces of brandy per diem, and that from that day onwards the evening temperature fell from 103° , which had been its reading for more than a week, to below 99° . Along with this improvement the solid patch disappeared, and now for the first time, on the thirty-second day from the initial rigor, a most inordinate duration for pneumonia, the girl may be called convalescent.

Let no one suppose that alcohol or anything else of this kind is necessary generally for the cure of pneumonia. Let no one believe for a moment that the cases related from time to time of pneumonia successfully treated by this drug or that prove anything whatever. The sudden arrest of pneumonia is in the nature of it. We have suffered enough in the past from ignorance of this great fact to make us hold it now as a very precious truth. At the same time, and with the manifest and unquestioned good that has been got from letting pneumonia alone, it is possible that we may be resting at present too complacently in the belief that this affection *always* does best

without active help—that our present results are not only better than those of the last generation (which is certain), but that they are the best possible, both as regards the mortality and the duration of the disease. Consider for a moment the nature of the pneumonic process. Its cardinal fact is crisis, and crisis consists in these two phenomena—how related we need not at present inquire—the sudden cessation of pyrexia, and, at or about the same time, the rapid disappearance of the inflammatory exudation which has been occupying the lung. Our chief interest and anxiety, therefore, concern the conduct of this exudation. We have reason to expect that in the course of a week or thereabouts it will spontaneously quit its hold. And for the while we wait in hope of this result—and very much in the dark, it must be confessed, as to any intimate changes actually in progress within the lung. What we fear most is lest, without our knowing, a process of destruction may be going on, and that instead of a simple pneumonia, perfectly harmless to the lung except for the room that it takes, we may have a rapid dissolution of lung texture, a form of suppurative phthisis, in fact, necessarily fatal. It is to be hoped we may be able some day to distinguish and separate such cases. We do sometimes recognise them even now, and always look out for the destructive form among the drunken and the starved, and wherever a pneumonia does not at once make itself manifest, but needs to be searched and listened for. But excluding such instances, there is another fear during this period of waiting. It is lest the exudation should overstay its proper time; lest, from some cause or other (and one within our own control it may be), resolution should be delayed or incomplete. What makes pneumonia go amiss is the miscarriage of this grand act of the disease. No case of the kind, therefore, can be free from anxiety until the exudation begins to move; no case can be absolutely safe until it is gone.

And what is the condition of the patient, as this great event approaches,

which, in a quite literal sense, is to loose him from his disease? We somewhat disguise this condition, I think, by still preserving that old language of metaphor which speaks of pneumonia as “sthenic,” as though we had strength to subdue instead of strength to provide. Early prostration is one great feature of pneumonia. It is indeed by this symptom, as measured by aspect and posture and mental activity, more than by any other, that we can best estimate the probable issue. But at the particular juncture we are considering, there is not only the natural weakening proper to the disease, but the patient has now had some five or six days of bed, and been suffering all the deteriorative effects of imperfect blood aëration, renal congestion, and heart strain. Meanwhile there has been a very inadequate food-supply to meet an inordinate tissue-waste: inadequate, because, whatever our wishes may be, the assimilative power is apt to be very feeble, and the directions of books as to frequent and ample nourishment seem only to mock us. It is in these circumstances, I say, that crisis comes. The lung is called upon to free itself of a burden whose nature and quality may be fairly estimated upon the evidence of fatal cases, where sometimes the actual weight of the occupied and solid lung exceeds that of its fellow by three pounds or more.

Now, by whatever process it be that this material is disposed of in recovering cases, we know as a fact that when prostration is extreme it is often not got rid of at all; that in other instances, like the one before us, it is only partially disposed of, and that at the best the process of deliverance is not without its own suffering, of which the profuse sweating and exhaustion sometimes preceding crisis afford some evidence. It may be that the composition of the inflammatory material is one factor in determining its conduct. The more catarrhal the pneumonia the more tardy may be its resolution. We have, in fact, to recognise many gradations between the orderly process we are considering and the quite different process of pulmonary catarrh.

But that is not now the question. It is enough to know that the symptoms before us are those of ordinary lobar pneumonia; beginning as it begins, and likely to end as it ends. There is a material to be got rid of within an appointed time. It is the proper destiny of this material to liquefy and disappear. All that is necessary for the process (or at least all that we know of or can in any intelligible way help to supply) is an adequate vitality on the part of the patient. The crisis we are expecting is a vital act, for the performance of which it is necessary that a certain amount of strength should be still in reserve.

I need not remind you how strongly contrasted is this view of pneumonia with that which was formerly held. Nor can we doubt that by the old plan of depletion the natural course of the affection was disturbed and embarrassed precisely in the manner and precisely at the time when it was most easy and most dangerous so to treat it. The large mortality of that day is indeed hardly explicable without considering this nice adjustment, so to speak, of lowering remedies to an enfeebled and oppressed body. Patients would die of pneumonia, or rather with it, with lungs barely hepatised (we have the written records of such cases); while so much were the proper features of the affection disguised that its natural tendency to recovery, which at present governs all our treatment, was not so much as thought of. Pneumonia was a long, lingering disease, as well as a fatal one. Now I think it must be admitted that our present treatment of pneumonia is, as a general rule, perfectly satisfactory—the treatment, I mean, first formularised by the late Dr. Hughes Bennett, and founded on the principle that the patient is to be fortified and sustained in the trial that awaits him by means of such nourishing food as he can best take. That by this method an acute disease of such apparent, nay, of such real gravity, should be practically recovered from in a little over a week, is, it will be admitted, remarkable. There is nothing that I know of which

drugs can achieve half so striking as is this result achieved by discarding them. There can be no greater mistake, however, than that of supposing that the treatment just indicated amounts only to a treatment of waiting and expecting. On the contrary, it implies a very urgent need for support, and a very present danger when such support is withheld. It is the spirit and not the precise letter of the treatment which has to be kept in view. It may happen in some cases that the need is so pressing that mere feeding will not suffice, or the danger may be so imminent that there is not time to wait for the good of it. It is not always that “nutrients” can be taken in sufficient quantity; sometimes they can hardly be taken at all. These are not instances where the treatment fails, they are instances where it requires special modification; where we have to substitute for the while some means of support which shall be more prompt and immediate than ordinary food.

It is here that the question of alcohol occurs, and the great difficulty is to know betimes exactly where and when to apply it. If we measure pneumonia by the amount of lung that is solid, we shall never, or only by occasional accident, get a correct estimate of it. On the other hand, if we consider the actual present condition and aspect of the patient as well as his immediate antecedents and surroundings; if we remember that the pneumonia of destitution and of drunkenness; the pneumonia that is fought against and for awhile disregarded; the pneumonia that appears, be it ever so small as to its site, after severe nervous shock or prolonged exposure, that all these have a special need of support, and as a rule an absolute need for alcohol, then I think we shall be taking such a view of the disease as experience teaches, and applying legitimately the great principle upon which its successful treatment is based.

It was from this chair, not long before his death, that my friend and colleague, the late Dr. Anstie, in a clinical lecture upon pneumonia, spoke of the large quantity of evidence that he had collected and was

preparing to publish in proof of the proposition that high temperature combined with large urea discharge furnished the strongest *prima facie* reason for the administration of alcohol. I will not assume so much as this. I will take rather the admitted service of alcohol as defined accurately enough for our purpose in the well-known investigations of Professor Parkes. We can hardly contemplate the condition of these pneumonic patients, their low vitality, and the physical change which has to be accomplished within them before relief comes, without being reminded that here are precisely the circumstances where alcohol claims to be of use. Just at the pinch of crisis, when a little access of strength, a little more ability to assimilate food, is so urgently called for; when, moreover, as the nature of the disease teaches, a few hours will bring us to the time when we shall be able to pay the penalty incurred by resorting to such a succour, here, if anywhere, is the occasion and opportunity for alcohol.

Such a method of employing alcohol in pneumonia restricts its use to a particular period and a particular phase of the disease. When the food that the patient is able to take is obviously insufficient, when with a small lung implication his aspect is like that of typhoid fever, when he is past middle age, or his habits of living have been dissipated, or a period of mental or bodily distress* has preceded, and perhaps caused, the pneumonia—in all such cases, I think, we may expect great service from alcohol, and often find necessity for it. If I were called upon to express an opinion in few words as to the use of alcohol in this disease, I could (apart from

the question of age) put the result of my observations into no more definite or scientific shape than this—that the pneumonia of mystery, that which comes from some obscure or conjectural cause not commonly productive of such result, overwork or anxiety, or physical injury, or what not, and which nevertheless, upon interrogation of the other organs, appears to be a primary disease, is the kind that commonly needs alcohol; while the frank open pneumonia which is the result of some definite chill, or short exposure, commonly does without it.

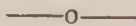
And, finally, let it always be remembered that alcohol in pneumonia must be given in anticipation of danger rather than in the immediate presence of it. We find the patient blue and gasping, and hardly conscious, and, as by an instinct, in accordance with universal practice, we pour in brandy. But if we consider the matter, and especially the known action of alcohol as a powerful narcotic, it is rather harm than good that we ought to expect from such an agent at such a time. The opportunity for alcohol has passed. Whatever may be the hope in such a condition (a question I do not attempt to discuss now), it can hardly be this.—*The Lancet.*

[It is satisfactory to find Dr. Sturges pointing out the powerful narcotic action of alcohol, and not only the utter uselessness of its administration, according to “universal practice,” when the patient is blue and gasping and hardly conscious, but also the positive harm this depressing drug gives rise to in such symptoms. It has never seemed to us a scientific procedure to attempt to depress still further an oppressed and labouring heart. It is also gratifying to note Dr. Sturges so strongly contending for the non-employment of alcohol in the general run of cases of pneumonia. This prescription of alcohol is limited to a particular and rare phase of the disease, and restricted to the treatment of that phase only. While cordially admitting Dr. Sturge’s claim to

* Many examples might be quoted showing the greatly increased danger of pneumonia when happening (*cæteris paribus*) to a community exposed at the time to severe strain and excitement, as, for example, an army in the field, even although there should be no actual hardship or privation. The high mortality of pneumonia amongst our troops in Afghanistan may be perhaps accounted for in this way.

a scientific and careful prescription of alcohol, we take the opportunity of reminding him that alcohol is administered with greater confidence when in a preparation of known alcoholic strength than as brandy or any other

intoxicant of commerce, and that there are other medicinal agents which might answer all the requirements of the symptoms Dr. Sturges so very properly regards as calling for special and prompt treatment.—ED.]



INTEMPERANCE AND ITS CAUSES.*

By W. JACKSON CUMMINS, Esq., M.D.

MY LORD BISHOP AND GENTLEMEN,
—Though I feel my utter inability to do anything like justice to the important subject on which you have asked me to write a paper, I cannot refuse to say a few words, well knowing how wide-spread is the influence of the ministers of our Irish Church, and how able and willing they are to promote the well-being of their flocks by precept and example. If we would remedy intemperance we must study its causes and ascertain how it is (1st) that masses of men are led to crave for alcohol; and (2nd) how individuals fall into intemperate habits—as the remedies to be applied range themselves into two grand classes, general and individual.

Coeval with the fall of man came in a physical and moral degeneracy of the human constitution, which gradually increased as generation succeeded generation. Hence the craving for some spur for vital energy, or some anæsthetic to suspend conscious existence, and blunt the keen edge of nervous sensibility. In alcohol was found a ready means of fulfilling both these indications, and it would almost seem an instinct which led men of all races and at all periods of the world's history to manufacture some spirit capable of raising them above the influences of their *environment*, and lulling for the moment the sense of imperfection and degeneration. If by any means we

could raise the mass of mankind to its primeval condition, alcohol would take its place among the fossils of a by-gone age, and the ceaseless longing for some condition beyond itself would cease to be a part of every man's being; but as this cannot be done, the tendency to alcoholic excess must ever remain festering in man side by side with other evil tendencies, but differing from them in the one important point, that the moral fault which leads to alcoholic excess generates a morbid *physical* condition—a disease of nutrition—which, once implanted, grows into a craving as strong as hunger and thirst or any other physiological desire, and as little under control of the will. This physical alcoholic disease, when once engendered, is capable of transmission to the offspring, and thus the evil, when gratified by indulgence, goes on increasing in ever-widening circles, until whole nations, and especially the most civilised nations, have the mark of intemperance stamped on them; and, through the moral and physical degeneracy thus induced, often lose their existence as nations. The reason I say “the most civilised nations,” is because “the great town system,” which is a necessary part of civilisation, very rapidly depresses and degenerates the constitution, and in many ways promotes alcoholism. Our own country has never been in as high a condition of commercial prosperity and civilisation as it was between the years 1870 and 1873, when wages rose

* Paper read at a Morning Meeting of Clergy and Laity at Cerk.

to such a height that the lower orders had means far beyond their necessities, and the middle classes so rapidly made fortunes that they were able to indulge in extravagance and luxury which had never been dreamt of before. The consequence was that "the amount spent in alcoholic drinks increased by £30,000,000 sterling in a few years, and this increase has been nearly maintained since then, notwithstanding the falling off of trade" so that the country is at the present time spending nearly "£150,000,000 annually in drink." (Smith).

We are now in a condition of commercial depression, and it is an appalling fact, and one which illustrates forcibly what I have said about the alcoholic disease, that, notwithstanding this depression and the individual poverty which it entails among the masses, who were well off during the prosperous years, the consumption of alcohol has not fallen with the fall of income, so that those who acquired habits of intemperance when well off are unable to lay them aside, and must now be gratifying them at the expense of home necessities for their wives and little ones.

Time does not permit me to dwell any longer upon the many ways in which moral and physical depression and degeneracy, inherited or acquired, predisposes to alcoholism. The causes of such depression and degeneracy are innumerable. Sanitary laws have as yet only touched the borders of them, but we are on the high road to an improved condition of water supply, of dwelling-houses, of sewers, rivers, towns, and food, while personal cleanliness, baths, excursions to the country, and education, have made rapid strides, and have in some measure overcome the deteriorating influences of monster communities. But much remains to be done; and if we would check intemperance we must secure a healthy tone of mind and body by removing those influences which depress both, and make what is in truth only a medicine seem to be a "certain kind of food."

To successfully combat intemperance, temperance in all things else

must be practised—in the greed for riches, which leads men to overwork and exhaust themselves until the spur of alcohol becomes necessary. In the ambition for place and power, with its certain disappointments and vexations, and need for the consoling cup—in the pleasures of fashionable society, which, used in excess, expel sleep when sleep is most required, and necessitate alcoholic narcotism to replace "nature's sweet restorer," as well as in everything else which interferes with the sober, steady, domestic life of the man who feels that he is responsible for his time, talents and opportunities, and that self-denying work is far nobler than the selfish pursuit of pleasure, profit or power.

I now turn to the second part of my subject, viz., the personal causes of intemperance; and foremost amongst these I would place the idea that alcohol is not only food, but food *par excellence*, something quite beyond meat, milk, vegetables, &c., &c. We are told by some authorities that because alcohol is oxidised, and thus produces force, it must be food—there never was a greater mistake. Castor oil is oxidised, and so are many other medicines, but no one surely would call them food. Alcohol, if it does in small doses generate a little force in the shape of heat, expends much more than it generates, and leaves a large balance against nutrition. A man may gain weight when taking small doses of alcohol, which he had failed to do before he added it to his dietary, because it sometimes improves digestion; and so he may if he takes small doses of strychnia, arsenic, pepsine, or any other medicine which stimulates the nerves and blood-vessels of the stomach, or affects the solution and digestion of food. It is the idea that alcohol is nourishment which makes half the drunkards we have, as many a poor mother could testify, who has been induced to commence the fatal habit for the sake of her babe, and many a working man who first took his nip to enable him to work hard for his wife and family. I fear that modern authors have not been guarded enough in

writing on this subject, and have led many students to imagine that alcohol is food, because it is oxidised, and, in small doses, generates heat. I am aware that much difference of opinion exists as to what constitutes food, and therefore I shall ask your pardon for making rather a lengthened quotation from the latest, and probably the best, writer on therapeutics (Sidney Ringer, seventh edition, published this year). After detailing the conflicting experiments and opinions of physiologists, he sums up thus: "Even if the greater part of alcohol is consumed, and thus ministers to the forces peculiar to the body, yet alcohol—by depressing functional activity, and favouring degeneration, &c.—may do more harm than can be counter-balanced by any good it may effect in setting free force during its destruction. . . . Granted that dietetic doses check oxidation in the healthy, and thus economise the blood and tissues; still, unless it can be shown that in health there is constantly an excess of consumption over and above that required by the body, such a diminution of oxidation could only result in *lessening the amount of force set free*, and put at the disposal of the organs, entailing of course a diminution of the functional activity of the body. Physiologists failing to guide our steps amid conflicting statements, it is obvious that in estimating the value of alcohol in health and disease we must rely solely on experience, which plainly shows that for the healthy alcohol is not a necessary, nor even a useful article of diet. Varied, repeated, and prolonged experience, and the testimony of army medical men, prove that troops endure fatigue and the extremes of climate better if alcohol is altogether abstained from." The next cause of personal intemperance is the system of "treating," which makes it hard for a generous high-minded young man to associate with his fellows unless he drinks with them. It is not easy to suggest a remedy for this and many other long-established drinking customs; and I fear the only real way of meeting it is to make the physiological effects of alcohol and its

dangers a most important part of the education of youth in national schools, and indeed in all schools, and to encourage the use of non-intoxicating beverages, or even the lighter kind of wines, as substitutes for strong porter and spirits, when men meet together to enjoy each other's society. There is no doubt that the drinking customs of society lead many into intemperate habits, and if the advocacy of teetotal principles could change these customs, one would almost feel inclined to adopt them. But I cannot help thinking that one of the great objects of our existence is to form habits of self-restraint by exercise, and that the man who learns to "use without abusing" is fulfilling his destiny better than he who shrinks from the battlefield and fears to face the foe. Besides, taking men as they are, I think that direct opposition has less effect for good than moral guidance and education, and I am sure that it is better that men should partake of light wines and diluted beverages at meal times than that they should drink in secret, and keep constantly nipping strong brandy or whisky between their meals. We want more wholesome beverages, and more substitutes for alcohol than we have at present. Would that some one would offer a large reward for the discovery of some new and wholesome non-intoxicating beverage! * What wonderful boons tea and coffee are we all know, but we want other drinks similar, yet not the same.

But while I would not advocate teetotalism, I think the silent pressure of society ought to be brought to bear more than it is against excess, and drunkenness ought to be considered disgraceful and intolerable. The drunkard should be shunned as an outcast from society, and shut up in a reformatory until he has ceased to be dangerous, and is fit for the occupations of a free life. I think, too, that society should not be endangered by such overwhelming inducements to

* A few non-alcoholic beverages have been of late advertised, such as Lupulin, sparkling bine, &c., &c.

intemperance as are at present offered by those who are interested in the sale of strong drink, and that public-houses should return to what they were originally—viz., places of refreshment, where food and drink together could be partaken of. We want more public entertainments and amusements in this country, and more places where men may meet together to chat and smoke their pipes. Surely the village national schools might easily be utilized during the long winter evenings, and set up as rivals to the public-houses. Many rational pleasures, too, might be encouraged, such as dramatic entertainments and public readings—not of scraps here and there, got up to show off the ability of the performer, but of stories such as those of Dickens and Walter Scott read aloud night after night, so as to keep up the interest of the tale. Music, too, would soon become a formidable rival of the public-house if systematic training were encouraged; and in a hundred ways a

higher tone of culture and taste might be made to counteract the low and sensual appetite for strong drink. But above all, the home of the working man should be made a happy and ornate one, instead of the dreary cabin in which he has to lodge at present; and much might be done in this direction by training women in the more useful and practical branches of art and household economy, instead of the higher education, which makes too many of them discontented slatterns. I regret much, my lord, that I have been obliged to hurry over these important details, and to omit many other suggestions which might be made to remedy the terrible intemperance of the present day; but I am happy to say that there are many workers in the cause of temperance who have more time at their disposal than I have, and it is possible that the few remarks I have made may be enlarged on by those present, and that some practical good may be effected.



MODERATE DRINKING CONDEMNED—A NEW DEPARTURE.

By the Rev. STENTON EARDLEY, B.A., *Streatham Common.*

MAY I address to the Temperance world a few words upon a point *which is emerging into conspicuous importance in our warfare against the foremost enemy of our national honour, character, and welfare?*

At first, a moment in the way of retrospect. It is scarcely too much to say that, with obvious exceptions, the old form of Temperance advocacy has fallen out of date. I do not thereby mean that we need the introduction of music, reading, &c., to our meetings, although I therein fully concur. Nor do I mean anything depreciatory of the simple antagonising of *drunkenness*, for the most part upon moral and social grounds. It has done a glorious work. It has indeed informed the national intelligence, and to some degree roused the national

conscience, upon a matter which touches to the quick the moral and material future of this Realm. No small achievement that! I am the first gratefully to recognise it, and the last to disparage. In truth, the terrible facts of our indictment against "the drink" must needs for many a day constitute our main *raison d'être* as Temperance organisations.

Yet the moral argument has strangely failed to touch millions of quiet, sober, moderate drinkers of alcohol. You have marshalled the hideous host of above a million paupers, mainly recruited by drink; a quarter of a million criminals, nurtured in the same quarter; a standing army of six hundred thousand drunkards (so said the *Quarterly Review*); with other items of drink's wreck and

ruin in the form of myriads of lunatics, orphans, and juvenile candidates for the gallows, to say nothing of the piteous shoal of female infamy and infant suffering; all this, and a dismal world of pain and wrong besides, we have arrayed before the nation, and men have sighed or writhed, or wished something could be done, or said something ought to be done, and numbers have finally salved their inquiet by—for them a bold step—some guinea contribution, or enrolment of their names in a moderate-drinking battalion, arrayed to rescue those who drink alcohol as they do, but have outstripped them in amount more or less.

What I wish to put before my temperance brethren is the fact that we have reached a new point of departure, have found a new arm of precision, have reached ground which commands a wider horizon, and can now bring into play an armament which must either be silenced or the light of victory will begin to gild our banners and the field be won.

The development of our work has brought us to a point at which we must review afresh the causes of our non-success, the work to be done, and our means for achieving it. We are no longer obliged to fight mere drunkenness—a strategy which has been quietly turned aside by sober, moderate drinkers, as not immediately concerning them. Though one marvels how a man whose mind is receptive and his conscience awake can endure to rank himself peacefully amongst the very forces from which the whole ghastly host of drunkards come—moderate drinkers. That Christian men can do it is wondrous strange. Such, however, is the fact. But I say our camp is now advanced, whilst we are secure in the rear; for not only does the whole argument of Christian pity, patriotism, and safe moral example retain all its primary force, but we have now another weapon, and it is of long range, and will pierce many a pachyderm which has only smiled at moral missiles.

This is what I mean. The most illustrious medical scientists in Eng-

land declare unequivocally *against the moderate use of alcoholic drinks*. Let us see. We may roughly divide medical science into three departments: co-ordinate, interlacing, but as respects experience and research, independent. They are medicine, surgery, and therapeutical chemistry. Perhaps no one man is supreme in any two: all the more significant the consentient testimony of two or three to any given point. Well, what is the witness of this three-voiced faculty in respect of alcohol drinking—not in excess—that is beside the question now—but in moderation?

Take Sir William Gull. I need only state in brief, yet sufficiently explicit terms, his evidence before the Committee of the House of Lords. Sir William spoke strongly, and, asked if his vehement testimony against alcohol did not regard “excess,” he repelled the idea with animation, and gave his voice directly against the customary dietetic use of alcohol, alleging that “one of the commonest things in society is, that people are injured by drink without being drunkards; it goes on so quietly that it is difficult to observe even. It is a most deleterious poison. A very large number of people in society are dying day by day, *poisoned by alcohol*, but not supposed to be poisoned by it.” “Again, there is a great deal of injury done to health by the habitual use of wines and alcohol, even in so-called moderate quantities.”

We must weigh *the man* to estimate his words. Here is no heated partisan, aglow on behalf of a Temperance organisation, overpushed by his fervour, or carried beyond scientific limits by the magnetism of a sympathetic auditory. We have simply the foremost physician in England (I suppose), taking up a position on purely medical grounds, straight in the teeth of that moderate use of alcohol addiction to which has kept thousands out of our ranks because they “could not sacrifice their health” by resigning their modicum of stimulant! Why, hundreds of these have given splendid fees to Sir William for his opinion—opinion given necessarily with some

haste, without lengthened thought. Here is one, deliberately thought out, and dispassionately given to the world under circumstances of august solemnity. Is "Gull's opinion" worth notice?

Then the foremost English surgeon (I suppose), Sir Henry Thompson, let him speak. His testimony sustains, and in some respects transcends, Sir William's. I refer to a letter written (offhand? no, these men don't either write or speak offhand) to the Archbishop of Canterbury—and to a speech which I heard him deliver before as weighty an intellectual audience as could well be gathered; for the question to be expounded by him and other gifted men was again, not alcoholic excess, but alcoholic moderation. He says:—"I do not mean by this that extreme indulgence which means drunkenness. The habitual use of fermented liquor to an extent *far short of what is necessary* to produce that condition—and such as is quite common in all ranks of society—injures the body and diminishes the mental power to an extent which I think few people are aware of." Again, "I have no hesitation in attributing a very large proportion of some of the most painful and dangerous maladies which come under my notice to the ordinary and daily use of fermented drink, taken in the quantity which is conventionally deemed moderate."

Again I say, there are amongst us myriads of moderate drinkers who, if they were under the sad necessity of calling in the highest surgical science in England, would turn to Sir Henry Thompson, thankful that they were not constrained to put up with inferior ability, and that they could have all that fortune can obtain. Look at the facts. Here are the dicta of Sir William Gull and Sir Henry Thompson seriously (one need not say conscientiously) formed, and given forth from platforms upon which a nation's eyes were fixed, millions longing for an opinion that should regild the fading idol alcohol; and a minority, not so many mighty or noble, hoping for help in their hard battle for a nation's purity and life. Each gives his sen-

tence, unmistakably definite, unhesitating, sharp cut, inexorable. Alcohol is presented, and the question asked, "Is this thing food for body or mind? aliment for this world or the next?" and they both smite it to the earth with a negative, which shall pierce the ears of millions yet. What is it that has power to make such opinion valueless? *What is it?*

Then you have the results of the indefatigable research of Dr. B. W. Richardson, *facile princeps* he of the fine band of medico-chemists who have devoted themselves to the scientific examination of *materia medica* and the various substances of human aliment, men to whom is owing a vast quota of the whole corpus of therapeutic knowledge. Dr. Richardson's medical brethren, to the tune of 600, did not present that gentleman with a scientific apparatus and a purse of 1,000 guineas because they thought him "a good fellow;" they did it because they knew him for an illustrious scholar and a medical leader. They were conscious that their ranks included a genius of labour and intuition, who has broken away old artificial horizons and let in a flood of beneficent light; and they honoured him because he honoured them and the world of scientific scholarship to which they appertain.

Why, Dr. Richardson caps Gull and Thompson, they coming with their conclusions from the wide experience of a medical life, and he with his from the truth-telling laboratory. To Richardson belongs the distinction of having first *dissected* alcohol, and that with a splendid enthusiasm (one of the marks of genius), which grappled with every mystery and tortured out of it its confession—which tried and tried, and tested again, every experiment, as one laying a foundation on which to build what shall last for ever. And he has settled a great question scientifically, which thousands of us, poor, happy-go-lucky fellows, had settled without much science long years since.

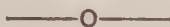
Richardson says, "Alcohol has no power to build up human tissue, and has no scientific right to be called

a supporter of physical or mental strength or endurance." Wherein and whereby he caught a fiend, strapped him down, vivisected him (I don't think he would cut up any other order of creature), and, the experiment concluded, he has turned him adrift with branded forehead (as respects his influence on general human well-being, physical and moral), "The Devil in Solution."

This, then, is at last, our ascertained new position: *Science is clean against moderate drinking*. If there is a scientific sun in England that is what we read in its light. But if so, every man who drinks alcoholics moderately is presumptively wrong—not wrong only because he might by abstaining help instead of hinder us; not wrong only because he is inadequately impressed with the sad facts around him and his responsibility in their regard; not only because he does our cause harm; but wrong because he is utterly deluded as to his sole reasons for not coming over to us. "My health," he says. But here is a consensus of opinion, so responsibly formed that it need not wait for specialities and physical idiosyncrasies, but pronounces distinctly against the ordinary moderate dietetic use of alcoholics as a stark delusion; more: as injurious—yea, injurious in a high degree—absolutely poisonous! It were amusing if it did not make one angry to hear moderate alcoholic drinkers tell you, "Well, I follow my doctor's advice;" who, in any serious emergency, would be glad to throw up "my doctor," and substitute for him one of those aforementioned. Who is "my doctor" (for nine in ten of us) beside

these towering giants of the therapeutic world? Is he anybody? Is there one sole dietetic, medical point, which the independent consensus of Gull, Thompson, and Richardson, would not settle? Is there a "food" which these three men had independently declared useless, injurious, poisonous, which could yet hold up its face, and flare out from two hundred thousand shops? Well, yes, there is one. One! in respect of which to say, "I've seen Gull, and then Thompson, and then Richardson, and they all agree," would mean no more than "I've seen Tom Thumb." We all know what that "diet" would be, and we know pretty well why in that solitary case these luminaries would shine in vain. It means, "I like my drink, and in that point I don't care for your Gulls or anybody else. I shan't give it up for them, and I shan't give it up for the temperance people. I shan't give it up at all." To which one says, or rather does not say, "So be it. The pity is, that we lose your help in a hard battle, and can ill afford it, and you are shortening your days and fouling your happiness under a stark delusion."

I may not pursue this matter further, nor should I so far, but I have been able to flit along without an interruption. I want Temperance men clearly to recognise the new position and occupy it. Every Englishman is now bound to vindicate his sense and reason in imbibing what these leading medical men in England denounce as "useless," "delusive," "poisonous," whilst our position as Nephelists is scientific, logical, unassailable.



PAUPER NURSES AND STIMULANTS.—The Board of Guardians of Bristol have decided, with reference to the use of intoxicating liquors in the workhouse, that stimulants given to paupers acting as nurses should only be supplied at mealtimes, and that the quantities ordered for the sick should be under the supervision of the paid officials.—*Medical Times and Gazette*.

SEVEN YEARS' WORK AT THE LONDON TEMPERANCE HOSPITAL.*

By JAMES EDMUNDS, M.D., M.R.C.P., &c., *Senior Physician to the Hospital.*

DURING the eighty months that the Temperance Hospital has been in operation, 8,651 patients have been admitted. Of these 5,923 described themselves as total abstainers, and 2,728 as non-abstainers. The character of the cases has been just such as at other London hospitals, and an average sample of the indoor cases will be seen in those who now happen to remain under treatment in the beds of the hospital. The practice at the hospital has not differed from that at other London Hospitals, excepting in the fact that alcoholic compounds have been excluded unless prescribed under test conditions. Those conditions are the following:—

1. As a beverage or appendage to the meal table alcohol is never used.

2. As a pharmaceutical solvent alcohol has been superseded. A solution of glycerine and water has answered perfectly as a vehicle for every drug that has been required in the form of tincture. The solution costs about one-fifth as much as the ordinary alcoholic solvent, and tinctures thus made give the true effects of the drug unalloyed by the action of an alcoholic vehicle. The glycerine tinctures are efficient and economical, while they are never taken, surreptitiously or otherwise, as intoxicants.

3. As a medicine alcohol or its compounds may be prescribed by the physician in charge precisely as any other drug. It is only stipulated that in such cases the prescriber records the case at the time in a book kept for the purpose, and that he states the object for which he prescribes the alcohol, and subsequently records the effects which follow.

While these are the regulations of the hospital I find that during seven

years, in point of fact, alcohol has been prescribed only in one case, at the commencement of the hospital work, and in this case half-ounce doses of spirit of wine were administered. My colleague, Dr. Ridge, who was in charge of that case, has since been convinced by fuller experience that the alcohol need not have been prescribed, but at first he was obviously wise in going rather with the balance of professional opinion than otherwise. My other colleague, Dr. Lee, and myself have in no case prescribed any alcohol, and we are both perfectly satisfied with the results.

Among the 8,651 patients 7,791 were out-door cases, and 860, or about 10 per cent., were in-door cases. Of these 860 in-door cases 549 were abstainers, and 331 non-abstainers. Many of the patients who are abstainers come to the hospital because, on falling ill, their illness has been set down to their abstinence, and port wine, stout, claret, &c., have been prescribed. The first question these patients ask is, "Do I need to break my pledge in order to recover my health?" Now, broadly, the cases of this sort which occur among the out-door patients are cases of consumption, cases of indigestion, cases of general failure from over-work, under-feeding, over-growth, over-nursing, and advancing age. The consumptive cases fall at once into the two categories, *i.e.*, those so far advanced as not to be amenable to treatment of any kind, and those which are only in the incipient stage, and which, in very large numbers recover under careful treatment. These may practically be classed in their main lines of treatment with the "general failure" cases, and the only way to heal up the damaged lungs is to improve the general health in the first case, and to treat the local lesion as an addendum to the general treat-

* Read at the Fourth Annual Meeting of the British Medical Temperance Association, May 27th, 1880.

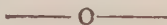
ment. Taking all those cases in which defective nutrition is traceable to want of food, bad cooking, injudicious choice of food, decayed or defective teeth, it is obvious that a poor needlewoman, for instance, will do better to spend her seven shillings a-week rather upon oatmeal porridge, fat bacon and milk, than upon mutton chops and beer or wine. Such a woman must starve if her narrow earnings be laid out in flesh food and wine, while if mainly expended upon sound well-prepared oatmeal or other breadstuffs, with milk and fat bacon, she will keep in perfect health, and be capable of regular work. Yet we see such cases every day in which the failing health, instead of being referred to injudicious choice of food, is set down to "want of stimulants." All these cases of "general failure" prove, in point of fact, to recover best, not when food-money is diverted to beer and to increased proportion of flesh food, but when the various factors of the failure are indicated and corrected as described above.

Diathetic conditions need, of course, also appropriate medicinal treatment, just as localised lung lesions do. Taking another great series of cases in which imperfect elimination is a considerable factor, the alcohol that has often been prescribed seems to have been emphatically mischievous. I have seen only one case in which a patient who was an abstainer, and had no history of gout in his progenitors, complained of distinct gout. This patient, a man, had been treated for three months for gout in his feet, and when he came to the hospital I examined him curiously. He proved

to have no gout, but to suffer from flat feet, on which he had been standing many hours each day. Change of employment relieved him so far as he could be relieved.

Among the 860 in-door cases 13 remain still under treatment in the hospital, and 38 have died, a mortality of $4\frac{1}{2}$ per cent. The cases remaining in the hospital are as follows: amputation of foot (convalescent), cellulitis, acute rheumatism, hip-joint disease, bronchitis, disease of heart, dysentery, debility, hæmorrhoids, dyspepsia and debility, phthisis. Two of these cases had been treated freely with alcohol before coming to the Temperance Hospital, and certainly without benefit. Among the in-door surgical cases there have been Cæsarian section, various amputations, ligature of the common carotid artery at the root of the neck, for aneurism of the innominate, ovariectomy, excision of cancerous tumours, and a full share of other severe cases. Only two deaths have occurred among the surgical cases, one a case of ovariectomy in which peritoneal cancer was found; the other an amputation of the thigh in an aged and unsound man of seventy-two, who had for three weeks before coming to the hospital had mortification of the leg, extending nearly to the knee-joint. In neither of these cases can it be imagined that the use of alcohol would have made any difference in the result.

Without going further into detail I venture to submit that the death-rate of $4\frac{1}{2}$ per cent. among these in-door patients fully justifies their treatment without alcohol.—*Medical Press and Circular.*



ALCOHOL IN FEVER.*

By H. MACNAUGHTON JONES, M.D., *Professor in the Queen's University, Ireland, and Physician to the Fever Hospital, Cork.*

I INTEND these few remarks to be essentially practical, giving rather the

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association in Cork, August 1879.

results of my individual bedside experience than broaching any original views or theories with regard to this important question. Independently of private cases, I have treated in the Cork Fever Hospital, from January

1873 to June 30th, 1879, 899 cases of fever, meaning by fever, typhus, typhoid, and simple continued fever. I commence at this date, for it was in this year that I first determined to watch carefully the effects of digitalis in fever, and learned to abandon the too-generous use of alcohol; nay more, to administer it only in a percentage of cases in which the indications for its employment are clear, and when the responsibilities of withholding stimulants would be infinitely greater than that of administering them. I have since been most careful in ordering brandy or wine of any kind in fever. My views of the value of alcohol I shall, having read these tables, briefly summarise.

In the year 1875, I published, in the *Dublin Monthly Journal of Medical Science*, a table of 310 cases of fever; of these, 220 got no stimulants, 58 had claret alone, 33 had brandy. Of this number, 110 were typhus patients, of whom 26 had stimulants. The mortality in the typhus cases was 8 per cent.; in all other cases, $3\frac{1}{2}$ per cent. The brandy in all the fatal cases was commenced from the first to the fifth day. In that period, I had two deaths from typhoid fever; both patients had stimulants from an early date in the attack. I have divided the patients treated since the publication of this table under two heads; Table A: Total patients treated, with percentage of deaths; Table B: Total patients treated since January, 1877. I had not an accurate record of the patients who had stimulants from February, 1875, to January, 1877, as the hospital wine-book was unfortunately mislaid. But the average number of patients who received stimulants was about the same as from January, 1873, to February, 1875, during which time 30 per cent. of all the cases had stimulants at some period of the fever. From January, 1877, to June, 30th, 1879, 36.17 per cent. have had stimulants. In typhus fever, stimulants were given during the first period to 23.6 per cent. of the cases, and during the latter, to 41.37 per cent. In typhoid fever, of

107 cases, 22 had brandy and wine, 27 claret alone.

Total percentage of typhoid patients taking brandy at some period of the fever	20.56
Total percentage of ditto taking claret at some period of the fever ..	25.23
Deaths of the former ..	36.36 per cent.
Deaths of the latter ..	7.40 ..

Of 117 cases of simple continued fever, 5.12 per cent. were given brandy, and 5.12 per. cent. claret. There were no deaths. In all these cases, temperature-charts of the disease have been kept. Sphygmographic tracings of several were taken during the illness.

TABLE A.—*Patients Treated since February, 1875.*

Total number treated	589
Total number of deaths	47
Total number of typhus patients treated	239
Total number of typhus deaths ..	35
Total number of typhoid treated ..	147
Total number of typhoid deaths ..	12
Total number of simple fever treated	203
Total percentage of deaths (deducting nine, registered hopeless on admission)	6.45
Percentage of typhus deaths (deducting nine hopeless)	10.86
Percentage of typhoid deaths ..	8.16

Of the typhus cases who died, 9 were hopeless on admission, 7 were ill more than ten days, 1 was complicated with encephalitis, 1 was subject to epileptic fits, 1 was a confirmed drunkard, having taken, according to his friends' statement, "nothing but whisky for ten days previous to his admission."

Of the typhoid patients who died, 3 were ill more than ten days on admission, one was complicated with pneumonia, and one was a drunkard previously.

TABLE B.—*Patients Treated since January, 1877.*

Total number treated	340
Total number of deaths	25
Total number of typhus treated ..	116
Total number of typhus deaths ..	14
Total number of typhoid treated ..	107
Total number of typhoid deaths ..	11
Total number of simple fever treated	117
Total percentage of deaths ..	6.17
Percentage of typhus deaths ..	8.62 ;

Percentage of typhoid deaths ..	10.28
Total number who got brandy ..	53
Typhus .. 30; of whom 11 died	
Typhoid .. 22 " 8 "	
Simple fever 6 " 0 "	
Total number who got claret (no brandy) ..	65
Typhus .. 18; of whom 0 died	
Typhoid .. 27 " 2 "	
Simple fever 6 " 0 "	
Total number treated without any stimulant ..	217

Of those typhus patients who died, 4 were registered as hopeless on admission, and 3 were ill over ten days.

Of the typhoid patients who died, 2 were ill over ten days, 1 was a drunkard previously, and one was complicated with pneumonia.

TABLE C.

Total patients treated since January, 1873 ..	899
Total typhus fever patients since January, 1873 ..	349

Of these, records of 226 show that 74 had stimulants of any kind, either during the fever or convalescence (several in this latter period). In typhus fever, 32.74 took stimulants, with a mortality of 7.16 per cent.

I may now sum up my conviction from bedside experience of the value of alcohol in fever. It is a most valuable therapeutic agent in both typhus and typhoid fever. A large percentage of cases not alone do not require it, but its administration is apt to lead to complications. It is impossible to lay down rules as to the stage of the fever in which it may be indicated, as this indication depends rather on the type of the fever than on its stage. But the time to watch for its administration in ordinary cases is from the eighth to the twelfth day. Early administration of alcohol in fever is injudicious. I have little faith in the early employment of stimulants preventing an adynamic condition, and I have rarely seen them have a good effect in the early stages of the fever of habitual drinkers. I am inclined to think that it is a dangerous fallacy to regard them as essential in such cases. Of the two, I have more often seen hard drinkers recover without stimulants than with them. Alcohol, in my

experience, has little effect on the temperature of fever.

I generally take as my tests the age of the patients, the condition of the heart, the pulse, tongue, and head symptoms. Young patients, as a rule, do well without stimulants. A feeble, irregularly-acting heart with weakened first sound; a compressible and rapid pulse, a tongue keeping fairly moist, the absence of violent head symptoms, encourage me in their continuance and use. I believe that we possess in alcohol a supporting food, in those typhoid states where assimilation is difficult, and I have many times seen lives saved in fever, sustained for days by brandy and milk alone, where everything else had been rejected.

The practices I conceive most to be deplored in the administration of alcohol, are (1) the indiscriminate employment in the earlier stages of fever; (2) the rash continuance and the increase of the quantity used, when the symptoms clearly show that it is acting injuriously.

I cite one case of typhoid fever, to illustrate the value of stimulants, judiciously administered at the proper time, with their effects carefully watched.

The patient, a girl, had been ill three weeks before admission. The following was the train of symptoms. Temperature range, with marked exacerbations, first week, 102° to 105°; second week, 100° to 105°. On admission, there were crepitation over both lungs, rusty sputa, rapid respiration, constant stools; severe epistaxis. She was deaf and delirious. She passed a large hæmorrhagic stool a few hours after admission, and passed in twenty-four hours four such stools; for days she had involuntary ones. A note was taken twice during the first week of her being "cold and listless; pulse hæmorrhagic." All through, the tongue kept moist and fairly clean. The motions were very frequent for some days. She had occasional attacks of hectic, followed by profuse diaphoresis and cold sweats. This girl was one of the worst cases of typhoid fever, if not the worst, I have

ever seen recover. Her treatment during the period of hæmorrhage was almost entirely non-stimulant, consisting of milk, beef-essence (in small doses), fowl-broth; and as medicines, digitalis, ipecacuanha, and Dover's powder; quinine, opium, sulphuric acid lemonade, gallic acid; acetate of lead and opium enemata; the usual local applications to the abdomen, and tepid spongings every fourth hour to the trunk. On the seventh day after admission, the note entered was, "pulse duplex, dicrotous, feeble." She

was given brandy and milk every fourth hour, and an ounce of claret every second hour. She was put on a mixture of muriated tincture of iron, tincture and infusion of digitalis, spirit of chloroform every third hour. This was changed subsequently for quinine and digitalis. She refused all stimulants on November 18th, and from this to January 4th she took none. She had milk diet mainly. After stimulants were first given, the note entered was, "looks better; pulse improved; stronger."



POST PARTUM HÆMORRHAGE.

The question of the medical administration of brandy was the leading feature of a recent discussion at a meeting of the Metropolitan Counties Branch of the British Medical Association in the North Western district. Dr. Cree presided, and introduced Dr. Norman Kerr, who read a paper which appears among our original contributions. An interesting conversation then followed, in the course of which

Surgeon-General C. R. FRANCIS, M.D., of Clapham, late Principal of the Calcutta Medical College, gave the particulars of a case of severe post partum hæmorrhage which had come under his observation in the hills in India, where the medical officer in charge, alarmed by the extreme collapse, had at once given a large quantity of brandy. No tangible result occurring whilst the hæmorrhage continued, the brandy was repeated until, in twenty minutes or so, a third of a bottle had been taken. About two drachms of tincture of opium were given during the same interval. The bleeding and the collapse remaining *in statu quo*, Dr. Francis was sent for. As he lived close by, and being aware of the lady's tendency to post partum hæmorrhage, was on the alert expecting a summons, he shortly arrived. Happily, however, meanwhile, vomiting had taken place, and the uterus, which had before been large and

flaccid, at once contracted firmly. The hæmorrhage then ceased. Gradually, under the influence of ether and other diffusible stimuli, the patient recovered from her collapsed state; but made an unusually slow recovery. It seemed but too evident that, had the uterus not contracted when it did in sympathy with the stomach, death would, under the treatment pursued, have been the inevitable result. The vomiting was a conservative act that saved her life. Dr. Francis believes that opium alone (alcoholic stimulants are not in his opinion admissible in such cases), when judiciously administered, is a most valuable remedy, but not till after the hæmorrhage has ceased. It is especially useful where there is nervous irritability with pain of the uterus. The native females in India very rarely suffer, so far as he is aware, from post partum hæmorrhage, owing doubtless to their extremely temperate habits. The Hindoos are essentially total abstainers.

Dr. J. J. RIDGE said that he had been recently summoned to attend a lady in her sixth confinement, and found on arrival that labour had come on suddenly, and she was lying on the floor of the sitting-room: the child was already born, and there had been considerable hæmorrhage. She was an anæmic person. On removing the placenta further hæmorrhage occurred,

and she soon began to feel very faint and a convulsion occurred. Pressure was exerted on the uterus and cold water applied to the face; there was no stimulant of any kind in the house even if one had been required, but he regarded the syncope as the best guarantee for the arrest of the hæmorrhage. When consciousness had returned a little hot water was given by teaspoonfuls and the patient revived. The hæmorrhage soon after returned to a slight extent, and there was another convulsion of a severer character. The patient again rallied with vomiting; some hot milk and water was given, which seemed very grateful and refreshing to her; the pulse and colour returned. She made after this an uninterrupted and good recovery, with entire absence of reactionary fever; her diet was chiefly milk gruel. Dr. Ridge further stated that in his experience this absence of fever was common when no alcohol had been given. He pointed out that the great desideratum for preventing hæmorrhage was contraction of the uterus; that during

labour the use of hot drinks was found to promote this, and that they were therefore likely to be useful subsequently: it was also well known that they promoted vomiting, in other words contraction of the organic muscular fibre of the stomach; and since recovery from syncope was frequently accompanied with vomiting it seemed to indicate the advisability of administering some hot drink or other to effect both these objects, namely, contraction of the uterus and recovery of consciousness with stimulation of the heart. Alcohol, while it often restored consciousness appeared to do so by relaxing the organic muscular fibre, checking, vomiting, and relaxing the uterus; fortunately vomiting would sometimes occur, in spite of the alcohol which was ejected from the stomach, and the patient's life thereby saved. Nature had many resources, and it was best to follow her indications, and to assist them rather than to interfere too officiously: there was more need of the "magic of patience" in these cases.



A FORTNIGHT IN A HOME FOR INEBRIATE LADIES.*

By J. C. REID, M.D., *Newbiggin-by-Sea.*

"Restrain the drunkard, if we would set him free
From the vile thralldom of the tyrant Drink.
He neither has the power to fight nor flee,—
Control him! till he soberly can think,
And resolution form to act the man,
And pledge himself for ever to abstain.
'This is a simple, yet a thorough plan,
And to effect it, he must in charge remain
Till he can trust himself, and 'tis seen clear
He can be trusted the right course to steer."

Resurgam.

MR. PRESIDENT:—In presuming to occupy your time on this occasion, I desire in the first place to awaken your sympathy for that miserable abortion of a defunct Parliament, "The Habitual Drunkards Bill," to stimulate the power wielded by our Association to influence the House of Commons to restore the deleted clause, and give it a vitality and visibility that will render it a beneficial measure of restraint and a practical remedy for restoring the victims of intemperance, not only to the domestic circle, but to the community they influence. I shall now give you, from actual observation, a short sketch of the working of an unlicensed Retreat, conducted on the voluntary principle. Knowing from my boyhood the hardships some of my school-fellows had

* Read at a joint meeting of the North of England and Border Counties Branches of the British Medical Association, held at Gilsland, 20th April, 1880.

to endure from the intemperate habits of either father or mother, long anterior to the era of temperance societies, I had the idea of what a boon it would prove to many a disheartened household if there were places where drunkards could be sent to, where they would be compelled to work without a drop of drink. This boyish fancy was in after years strengthened by perusing my father's private journal, when surgeon of H.M.S. *Esk*, whilst cruising for slavers on the Gold Coast of Africa in 1824-55. After detailing the deteriorating effects of drink, which admitted of two courses, "refrain and abstain and live, or drink and die!" he went on to say, "he would advise the Home authorities to send all incurable drunkards to this station (Prince's Island), especially if they were men of education and reflection." No wonder that I have taken a deep interest in the Habitual Drunkards Bill, and at our last meeting in Edinburgh lifted up my voice in its behalf, and subsequently wrote three letters in the *Daily Review* in defence of it. I had a longing desire to see for myself the internal economy of a Home for Inebriates. Circumstances favoured me, and last year saw me a visitor in Mrs. Theobald's, Tower House, Leicester; this establishment is for ladies only, of the upper middle class, terms from £2 2s. to £5 5s. per week, medical attendance by Dr. Clarke extra. My curiosity had been previously roused by the reading of a pamphlet consisting of testimonials and letters brimful of gratitude, having also been informed that medicine played but a sorry figure, and that the panacea was simply entire abstinence and a combination of womanly sympathy, remembering, too, that this was the first venture of the kind in England. The conclusion I came to was to ascertain if all written about it was true. Tower House is two miles out of town, and stands on its own ground, surrounded by luxuriant shrubbery where singing-birds abound; there is a greenhouse, croquet lawn, ample kitchen garden, stables, coach-house, and all the *et ceteras* needful for an establishment of twenty-one rooms well furnished, almost luxu-

riously so. That the sanitary arrangements are perfect is proved by the fact of not a single death occurring since the house was opened thirteen years since! One part of the treatment is early rising; the bell rings in winter at 7.30 a.m., at 8.30 for breakfast, at one for dinner, at five for tea, and 8.30 for supper, and at ten for prayers. Another matter is not only the punctuality of meals to a minute, but an ample and varied supply of the best of everything in season, cooked *secundem artem*. Here I may observe (in parenthesis) the claims put forward by the vegetarians in behalf of their system in conquering the drink-crave, without giving any opinion of my own, except the old wise saw, "What is one man's meat is another man's poison." Mrs. Theobald assured me that nutritious food, consisting largely of animal diet and plenty of it nicely prepared, was one of her most successful agents. There did not appear to be a single dyspeptic in the house. The law of kindness predominates; in fact Mrs. Theobald is formed by nature and education to carry on the work which engrosses her whole mind and energies; and were she not so well supported by three able assistants she would break down under the severe strain. The crowning part of the treatment is the total exclusion of all alcoholic compounds; and here lies her chief power,—no tampering with the scorpion, no substitution of spirits of sal volatile, no lavender water or *eau de cologne*; not even camphor allowed under any pretence whatever.

The effects of the treatment.—I saw no appearance of discontent, all seemed happy and cheerful, and as busy as bees; you could suppose them Solomon's ladies employed in all sorts of needlework, silks, fine linen, wools, and cotton (one ball of the last being a mile long), preparing for the decoration of the Temple; a closer inspection would have shown that they were articles of feminine attire. Nor is that solace of the mind, music, neglected. Occasionally, during the day, you might hear the piano. After tea, when all were plying their needles,

several in turn took their position at the piano; then a song, followed by a duet. After supper there was a continuance of the music, whilst a game at whist, chess, or draughts exercised the minds and skill of others until prayers. After which those who felt inclined retired to their rooms, where all were expected to be by eleven o'clock; the gas is not turned off at night as it is in some establishments, which I consider an objectionable economy. Once a week there is a dance. Every Wednesday hot baths, for those who choose. As for the ladies, the reason of their retirement was not a subject for general conversation. Sometimes it was mentioned in a quiet manner; for instance, one lady told me she would never have been so bad as she was had it not been for the servants who sat up with her to watch that she did not get drunk, filling her drunk, so that they might get to bed. Another told me this was her second visit. She had been out two months visiting her own and husband's friends, and for a season "she held fast her integrity." One of these dogged irrepressibles in female form insisted on her "just tasting her wine that was of some famous vintage, and so recommended by the faculty," when, like the tame fox, which licked a few drops of blood, its savage nature awoke with awful power. Generally speaking they were all very pleasant and agreeable. Their conversational powers reminded me of an incident that happened in Scotland, between two of my schoolfellows, in after days:—"Man, doctor, what a lot of books you've got!" "Would you like me to lend you one?" "Yes, and much obliged." Johnston's Dictionary was handed to him, and when returned, he said, he "found it very entertaining, but unco' little on one subject!" Of course there were many things told that it would be very imprudent to repeat. This establishment will in nowise be benefited by the Act. The proprietor will not take out the license; her system is one month's notice. Some few walk quietly in of their own accord. One lady after a year's sojourn left; not

a month elapsed till in she coolly walked. "Now don't be alarmed, I am all right; but I did not feel at all safe, and I have come back to make myself secure under your roof." After a second year she left, and whilst I was there a letter came from her expressive of such delight at being so long free from any temptation, and so overflowing with grateful thanks and pleasant recollections that it did one good to hear of her complete restoration, and her deep sense of obligation for the great interest taken in her. Whatever morbid ideas some patients may have as to their seclusion before their admission are soon dispelled; and however ill on their arrival they are not long in finding their way down stairs. The inmates can go out and in their own rooms, the dining and drawing rooms, or roam on the grounds at their own sweet will. They can write to their friends when and what they like; married ones receive visits from their husbands. The ladies can go to church, opera, theatre, or concert; have a walk or drive into town or country; but outside the grounds *a guide* invariably accompanies them. In fine there is not any appearance of restraint; neither locks nor bolts to bar their exit. There are two London dailies, several serials, weeklies, and monthlies, besides a well-stocked library. Whilst I was there a letter of anxious inquiry came from a petty officer on board one of our seagoing steam-ships, so full of love and sorrow, redolent of the most earnest solicitude for the reformation of his drunken wife. I never thought a man's affection could have survived all the misery and total shipwreck of his once happy home, as well as the loss of all he had, save his clothes and wages. He pleaded hard for her admission, and if she could not be received to mention some safe refuge where she would be secure when he was far from her, caring less for the perils of the deep than for the dangers drink exposed the poor wretch he still loved with all her faults. I here quote a picture of such a case by a recent writer:—

"Wasted in form, in face, in mind,
 She wanders downward to the grave;
 To every worthy impulse blind;
 Repulsing every hand to save."

Yet many such wrecks of humanity have been saved at Tower House—for drink, like death, reduces all its victims to the same level. For although Mrs. Theobald does not profess to cure all her patients any more than we ourselves do (some tire too soon, or think they are cured), the many saved by kind restraint has been to her a comfort and a stimulus.

Before concluding allow me to express my unfeigned regret that the clause empowering the relatives of the drunkard, under certain conditions, to confine him or her, as the case might be, was eliminated from the present Act, for he who provides not for his own family, as good old Paul said, "has denied the faith, and is worse than an infidel." People in towns sometimes find it hard to get two magistrates before whom the victim must (as the law is at present) make his declaration and thus expose his frailty; but in Newbiggin, and in Alnwick, the county town of Northumberland, we have to travel six miles before we can find one! and on one occasion I drove about for ten hours before I got one. Why should a clergyman's certificate

not answer the same purpose as that of a Justice of the Peace? All my life long, and I am now 63 years of age, I can only remember four persons willing to undergo restraint, and one individual would have gone into a lunatic asylum, but the proprietor could not receive him. Once on a time, dangerous inebriates could be sent there until the expiry of three months. But three months, or six, are too few for the periodical drinker; the sot or constant tippler might do with six months, but if he were under restraint for twelve he is less liable to feel the want of liquor, and not so easily gulled into the belief that his is one of those temperaments that cannot endure total abstinence. The fact is, these men *like it and won't do without it!* and, as far as I have seen, are really not so capable of continuous work with as without it!

And now, in conclusion, if what I have so imperfectly advanced will induce you to use your influence to obtain compulsory education for the drunkard in the principles and practice of total abstinence—which is as much required as the Education Act was for the juveniles—by the establishment of county or national retreats, and thus terminate our present sham legislation, I shall not have written in vain, and occupied your time to no purpose.

Notes and Extracts.

THE FRENCH TEMPERANCE SOCIETY has proposed the following question for competition in 1881: "Do alcohols introduced into the animal economy undergo any modifications?"—*British Medical Journal*.

GROCCERS' LICENSES. — How my blood boils to see young and old fools of both sexes, maidens, wives, mothers, and widows amongst the females, drinking strong liquors at all

hours at bars and refreshment rooms! When one knows the folly and the gratuitous mischief of the habit, and knows that it is so unnecessary in most cases, one longs to drive them forth in dismay. There is a field for legislation here. The grocers' licenses must go, and the doctors have said their say on that matter, by the way, and taken action too, and some restriction *must* be put upon

the mushroom-like up-croppings of drink counters.—*Dr. Dyce Duckworth.*

BRAIN-WORK, ALCOHOL, AND TOBACCO.—Mr. James Parton concludes a recent very suggestive article upon the habits and death of Bayard Taylor, whom he had, as a personal friend, warned against the danger of wine and beer drinking, and smoking, as follows :—“Mental labour is not hostile to health and life ; but I am more than ever convinced that a man who lives by his brain is of all men bound to avoid stimulating his brain. In this climate, to stimulate the brain by tobacco and alcohol is only a slow kind of suicide. Even the most moderate use of the mildest kind of wine is not without danger, because the peculiar exhaustion caused by severe mental labour is a constant and urgent temptation to increase the quantity and strength of the potation. I would say to every young man in the United States, if I could reach him—If you mean to attain one of the prizes of your profession and live a cheerful life to the age of eighty, throw away your dirty old pipe, put your cigars in the stove, and never buy any more, become an absolute teetotaler, take your dinner at noon, and rest one day in seven.”

DRINK AND SUNSTROKE IN INDIA.—Surgeon-Major William Curran, of the Army Medical Department, has contributed a paper to the *Medical Press and Circular* (June 16th), in which he says :—“Of all the conditions that contribute towards this disease intemperance holds, without question, the first place, and I subjoin a table which shows this, and shows also that the ordinary effects of heat are intensified tenfold by excess in this indulgence in the tropics. These toppers succumb rapidly ; they rush head foremost to the grave at such seasons as are here contemplated, and one of the dangers incidental to early residence in India lies in that craving for drink of one kind or another which the climate begets. If while in this state the heat is suddenly increased, the danger of men, circumstanced as I have just described,

is enhanced tenfold, and indeed any increase of temperature, however infinitesimal it may be, often brings matters to a crisis with persons of this complexion who might have otherwise fared no worse than their neighbours.”

LONDON TEMPERANCE HOSPITAL.—The annual general meeting of the governors of this institution was held in the library of the Memorial Hall, Farringdon Street, on Tuesday evening, May 25, under the presidency of Mr. Thomas Cash, Chairman of the Board of Management. The annual report commenced with a reference to the completion of the new building, and went on to state that the in-patients admitted during the year were 135, making an aggregate of 860 in-patients treated since the institution was opened. The out-patients during the year have numbered 1,136 or 7,791 since the commencement in October, 1873. The medical staff have seen no reason in any case for an exceptional use of alcohol, while they are agreed as to the wisdom of the non-alcoholic treatment under the varied forms and stages of disease which have come before them. There is no reason, in their judgment, why the same results should not attend the same treatment on a much larger scale. The Board of Management anticipate far more striking results when they commence their work on a larger scale, but note that already the medical profession is taking a lively interest in their proceedings. The financial statement shows how the Board have appropriated the contributions already remitted to the building fund, £21,305, “which is at once a testimony to the confidence of the subscribers in the justness of the principles adopted, and an assurance that nothing will be lacking to ensure for that principle a fuller application than it has yet obtained.” The Board go on to remind their supporters that the income from donations was £860 18s. 2d. last year, but will have to be largely increased when the number of in-patients is trebled as they will be in the new building which is nearly ready for opening.

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CONTENTS.

ORIGINAL CONTRIBUTIONS.

	PAGE
Acute and Chronic Alcoholic Poisoning	I
Alcohol as an Antispasmodic	69
Alcoholic Drinks not Necessaries of Life, and ought not to be taken for	
Daily use	125
Alcoholic Heredity as a Cause of Dipsomania	148
Cases Treated without Alcohol	82
Healthy Homes	152
Inebriety and its Treatment	182
Non-Alcoholic Substitutes for Intoxicating Beverages	93
On the Physiological and Pathogenic action of Ethylic Alcohol	20
On the Power Medical Men Possess of Aiding in Temperance Reform	89
The Heredity of Alcohol	13
The Influence of Ethylic Alcohol on Temperature	28
The Medical Profession and Intemperance in Alcohol	143
The Practical Treatment of Dipsomania	173
The Scientific Aspects of Temperance	178
The Treatment of Drink Thirst	185

PROCEEDINGS OF THE BRITISH MEDICAL TEMPERANCE ASSOCIATION.

Declaration sent to the International Temperance Congress at Brussels	35
Meeting at Bristol	98
Social Gathering at Cambridge	38
The Annual Meeting	187
The Spring Quarterly Meeting	155
The Summer Quarterly Meeting	37
The Winter Quarterly Meeting	99

MISCELLANEOUS COMMUNICATIONS.

Alcohol, Chemically, Physiologically, and Microscopically Considered	194
Alcohol in St. George's Hospital, London	66
Alcohol in Enteric Fever	122
Alcoholism in Sweden	165
Barming Lunatic Asylum	208
Cases of Alcoholic Insanity in Private Practice	59
Defective Nerve-Power as a Primary Cause of Disease, with its Special Relation to Dipsomania	162

	PAGE
Dr. Edis on Alcohol for Nursing Mothers	218
Habitual Drunkards in New Zealand	168
Intoxication as a Preventive of Shock	170
Note on Absence of Beer in an Asylum Dietary	213
Rapid Action of Alcohol	120
Stimulants in Workhouses	118
Stimulants in Workhouses and in Outdoor Relief	215
The British Medical Association at Cambridge	40
The Dalrymple Home for the Treatment of Inebriates	216
The Influence of Alcohol in the Causation of Insanity	63
The Intemperance of Parents a Predisposing Cause of Imbecility in Children	113
The National Temperance League's Medical Breakfast	51
The Use and Abuse of Alcoholic Stimulants... ..	156
Tobacco-and-Alcohol Amblyopia	211
What should we Drink?	100

NOTES AND EXTRACTS.

A "Combe" Lecturer on Alcohol	220
A Duke amongst the Doctors	124
A much-needed Reform	172
A new Exhilarating Substance	220
Abstinence and Longevity	220
Administering Alcohol to Children	171
Alcohol in the Workhouse... ..	171
Alcoholic Solutions of Pepsin	124
An Unproved Statement	124
Cost of Hospital Patients	219
Cui Bono?	172
Food or Drug?	219
London Temperance Hospital	219
Stimulants in Irish Workhouses	124
Temperance among Nurses	124
Testimonial to Dr. Norman Kerr	68
The International Temperance Congress at Brussels	68
The London Temperance Hospital	171
The Use of Alcohol in Hospitals	172

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ACUTE AND CHRONIC ALCOHOLIC POISONING.*

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ALCOHOLISM is a word used by many writers of the present day to designate a whole series of affections caused in the human race by the abuse of alcohol. The symptoms of this condition divide themselves naturally into two groups—*Acute and Chronic Alcoholism*. In the former group we find simply the effects of an immediate and transitory character—of an excess of intoxicating liquors, in which case we have *acute alcoholism*. In the latter we note the consequences of a long-continued use of such drinks—*chronic alcoholism*.

It is true that we are often unable to make any very clear distinction as to where one of these states ends and the other begins; still this division of the subject is denoted by the diversity and also by the chronicity of the diseases produced. Thus, whilst in acute alcoholism we see that the modifications are merely transitory and rapidly disappearing without leaving any trace behind them, in chronic alcoholism the diseases are lasting, and so much engrained into the constitution as occasionally to descend by inheritance to the offspring, thus becoming one of the causes of degeneration of certain races. In this respect, chronic alcoholism has a certain resemblance to such constitutional diseases as scrofula, syphilis, &c.

Thus we may look upon alcoholism, if we regard the ever-increasing habits of drinking of modern times, as one of the

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gravest of human ills, and worthy of being ranked among the most common diseases of our epoch.

Even as early as 1810, M. Muret, in examining the mortuary registers of a town in Switzerland, found the number of deaths attributable to alcohol so great that he estimated that it killed more people than fever or pleurisy, or any other of the most fatal diseases. Dr. Lancereaux, of Paris, writing in 1865 (*Dict. Ency. de M. et de Chir.*), calculates the number of deaths caused by alcohol at one-twentieth of all the deaths occurring in the Parisian hospitals. In England and Wales, with a population of twenty-five millions, the annual number of deaths caused by alcohol has been estimated by Dr. Richardson and other authorities at about 40,000 to 50,000. This would give about 5,000 deaths in London due to alcohol.

Alcoholism is not a new disease. It appears, according to M. Huc, that the Chinese, who practised the art of distillation long before other nations, were well acquainted with the diseases caused by spirit drinking. In ancient Greece even—at Lacedæmon—slaves were made drunk, on certain occasions, in order to instil into the minds of the citizens a contempt for drunkenness. Rome at first was a sober state; but in the times of the emperors drunkenness was frequent enough. Seneca, the teacher of Nero, gives a pretty good account of some of the diseases caused by chronic alcoholism when he says (Epist. 95, § 16):—
 “Inde pallor, et nervorum vino madentium tremor, et miserabilior ex cruditatibus quam ex fame macies; inde incerti labentium pedes, et semper qualis in ipsâ ebrietate, titubatio; inde in totam cutem humor admissus, distensusque venter, dum male aesuescit plus capere, quam poterat; inde suffusio luridæ bilis, et decolor vultus, nervorumque sine sensu jacentium torpor, aut palpitatio sine intermissione vibrantium. Quid capitis dicam vertigines?”

The eleventh century is the date of the knowledge of distillation among the Arabs and the nations of Europe. Alcohol was at first called a poison, and then a remedy (*aqua vitæ*). In 1678 the sale of alcohol was permitted in France to all, having been previous to that date reserved for druggists.

The north of Europe suffered most at first from the abuse of spirituous liquors; and to such an extent was this the case that, in 1764, it was found that in St. Petersburg 635 persons died annually of drunkenness. Beer seems to have been the habitual drink of the English before the reign of William and Mary; but after that time, up to 1744, all the shops in London gradually seem to have sold alcoholic drinks. The medical faculty of that year seem to have, as now, taken up the subject, and the consequence was that in 1751 certain Government enactments checked the sale of spirits to a great extent.

Drinking customs do not seem to have made much way in the United States until the epoch of the War of Independence, when the habits of a celibate soldiery, as usual, caused gradually a general recourse to ardent spirits among the colonists.

We may thus observe that the history of the extension of the use of ardent spirits has been progressive ever since the discovery of the art of distillation, and that at this moment it is everywhere, more or less, threatening the physical and moral well-being of the various nations throughout the world.

Acute Alcoholism, when it proves fatal, has a certain number of post-mortem appearances. The stomach is red, injected, and may be covered with ecchymoses, or even exhibit sub-mucous abscesses, and acute hepatitis has been seen in rare cases. Nothing precise is known about what is seen in the spleen or kidneys; but there are some appearances in the brain and thoracic viscera which are found very habitually. These organs exhibit a fulness of the vascular system in the vessels of the membranes of the brain, and in the principal veins which empty themselves into the heart, conjoined with a brick-red coloration of the pulmonary tissue. Pulmonary apoplexy, and meningeal hæmorrhage, are often noticed in persons who are poisoned acutely by alcohol; but they are, of course, often wanting. There is usually also a certain effusion of serum into the ventricles of the brain. The lungs are congested, the bronchi red and injected. These lesions may be thus summed up: Congestion, accompanied or not by hæmorrhage, as well at the surfaces of the membranes as in the parenchyme of the organs, with occasionally, although more rarely, inflammations of the various organs, rapidly running on to suppuration of the lungs, liver, or even the brain.

The symptoms of acute alcoholic poisoning are too well remembered by all to need any enumeration. Cases have been cited where transient albuminuria has been caused by a fit of drunkenness. The convulsive form of acute alcoholism described by Percy may be produced by *any excess* of spirituous liquors in an irritable constitution. New wine, or wine to which alcohol has been added, or gin, or absinthe, are the principal causes of this form. The immediate effect of these drinks is not always followed by convulsions; but, gradually, a severe pain is complained of in the epigastrium; the head, already embarrassed, wanders; acute headache ensues; the eyes are brilliant and then haggard, denoting an imminent attack of phrensy. Nausea then ensues, followed by convulsions; and such patients are liable to do themselves great damage by throwing themselves against a wall, or leaping from a window. I have known some difficulty in differentiating such attacks from those of epilepsy.

We are familiar with the apoplectiform fit, which is so liable to be mistaken for true apoplexy, and for the diagnosis of which Dr. Richardson has suggested the use of the clinical thermometer.

According to Sussmilch the number of persons who died in London in a fit of drunkenness was 27 from 1686 to 1710, 499 from 1711 to 1735, and 631 from 1736 to 1758. The Registrar-General's reports afford very little information on this point of a definite character at this day.

The very much more important disease of *Chronic Alcoholism* may be defined as a disease of evolution, generally slow, but progressive, which is caused by the prolonged abuse of spirituous liquors, characterised anatomically by inflammations, special but not suppurative, or by fatty degeneration of the organs. Its symptoms are different functional derangements, especially affecting the nervous and digestive systems.

The digestive organs, which receive and absorb the spirituous drinks, are, from this very fact, exposed beyond all the other organs to the action of the alcoholic agents. The effects of the alcohol which penetrates all the tissues by the way of the circulation is here heightened by the topical action of an irritating substance on the digestive mucous membrane, especially of the stomach.

The tongue in many drinkers is abnormally reddened, denuded of its epithelium, and with the papillæ hypertrophied. The same redness is noticeable on the mucous membrane of the fauces. The modifications impressed by alcohol on the mucous membrane of the stomach are, as a rule, dependent on the degree of concentration of the alcoholic fluids ingested, and cause simple or ulcerative gastritis.

The stomach is occasionally greatly dilated in beer drinkers; but in gin drinkers I have noticed that it is frequently much diminished in capacity. The mucous membrane is changed in colour, and there is seen a reddish injection in the neighbourhood of the cardiac orifice and lesser curvature.

Dr. Leudet, of Rouen, in a work on ulcers of the stomach caused by the abuse of alcohol, written in 1863, describes the ulcerations of the stomach occasionally seen in drunkards. These are far rarer than chronic simple gastritis, but one or two superficial ulcers are described as having been found on the surface of the mucous membrane. These ulcers very rarely produce perforation, but consist in erosions of a few millimeters in diameter. Cicatrices, too, of old ulcers are seen. Not unfrequently there is seen in the centre of such ulcers a clot of blood, reddish or yellowish in colour.

Leudet describes also ulceration in the lower part of the œso-

phagus, and injection of the duodenal mucous membrane. This I have seen. The small intestines do not appear to be often affected by alcohol; but the cœcum occasionally exhibits alterations very analogous to those seen in the stomach—thickness, with induration, slate-like colour of the mucous membrane, and, occasionally, ulcerations.

In consequence of such lesions, dyspepsia is one of the principal symptoms of alcoholism. The appetite is impaired, gases are generated in the stomach, which distend it and produce different sensations, such as dragging pains in the region of the epigastrium. Soon there comes on that phenomena of digestion which is the most characteristic of the dyspepsia of drunkards—namely, gastric catarrh. The morning is the epoch at which this is noticed, and Hufeland has well called it *vomitibus matutinis*.

On awakening, the drunkard experiences on getting up a painful sensation of nausea. This is the precursor of vomiting, which shortly ensues, either without effort, or accompanied by a fatiguing cough. The amount vomited is not great. The matter ejected has been compared to the spawn of frogs. The tongue is flabby, the mouth bitter, and thirst well marked.

Colic, flatulence, eructations, diarrhœa, or constipation, vex the drunkard continually. These various disagreeable symptoms last a long time when simple gastritis occurs. When there are ulcers, the vomiting may occur not only in the morning but at all times of the day, and occasionally the vomited matter may contain a little blood or colouring matter of the blood or bile. Alcohol is one of the causes of hæmatemesis, and death may be caused rapidly by it. According to Leudet, gastrorrhagia is noticed in the greater number of the cases of ulcer of the stomach. Dysenteriform evacuations, or even melæna, may occasionally be observed, and such complaints, conjoined with the disease of the stomach, are not long in leading to emaciation and cachexia.

Certain glands connected with digestion are greatly affected by alcohol. The parotid and submaxillary glands, the pancreas, and the liver, have all been described as participating in the influence of chronic alcoholism. The pancreas appears to be subject either to fatty degeneration or cirrhosis, similar to the liver. The liver affections, however, are typical. They are of two kinds, viz., steatosis and cirrhosis. Fatty degeneration of the liver is an almost constant phenomenon in chronic alcoholism. Next to tuberculisation, alcohol is, indeed, the commonest cause of steatosis of the liver. When this lesion is well marked, the liver is augmented in volume, which is principally due to the increase of thickness of its antero-posterior diameter.

The liver then presents a somewhat cubical form, which is often diagnostic. The accumulation of fat in the liver finally compresses the capillary vessels, and this explains the bloodlessness of the hepatic parenchyma. The bile is apt to be thickened by chronic alcoholism, and it is alleged that biliary calculi are not unfrequently due to this influence.

The symptoms of steatosis of the liver are augmentation of the volume of the organ, felt by palpitation, dyspepsia, with distension of the stomach, exaggerated sensibility in the epigastric region, stools infrequent, pale, and clay-like, with diarrhœa occasionally. Dr. Addison's description of the satin-like skin—pale, bloodless, and of the appearance of wax—has now become classic.

The hepatitis which is caused by chronic alcoholic poisoning is of the interstitial form. Writers on tropical climates allege, indeed, that alcohol may produce acute diffused hepatitis, and even suppuration of the organ. The first of these maladies is noticed rarely among the inhabitants of temperate zones, and comes on shortly after a fit of drinking. Jaundice is one of the symptoms. In such cases the liver is sometimes enlarged.

The relation of cause and effect between chronic alcoholic poisoning and cirrhosis of the liver has been established in so certain a manner that no doubts are now entertainable, in my opinion, upon the matter. Magnus Huss, in Sweden, Lebert, Budd, Bamberger, and many other well-known authorities, place alcohol among the most frequent causes of this disease of the liver. Alcoholic cirrhosis constitutes one species distinct from all the others. Alcoholic cirrhosis has to be distinguished from syphilitic hepatitis, from hepatitis caused by heart affections, and from one or two other forms.

The principal signs of alcoholic cirrhosis are, first of all, augmentation of the volume of the liver, followed by atrophic induration of the organ, with abundant ascitic effusion. The latter is almost constant, whilst jaundice is exceptional. Emaciation is as great as in phthisis.

Chronic alcoholic poisoning appears occasionally to produce peritonitis of a chronic and insidious kind. In such cases the patient complains of a dull pain disseminated over different parts of the abdomen, which is augmented in volume. A sense of irregularity in the abdomen, with, occasionally, cachexia, have been observed in such cases. No febrile symptoms are seen.

The lungs are the principal organs which have to eliminate alcohol from the body, and they are frequently damaged by chronic alcoholism. Laryngitis and bronchitis, acute congestion, chronic induration and granular tuberculisation, pleurisy,

and pneumonia, have all been traced to alcohol in many cases by authors of repute.

Dr. Magnus Huss, in his well-known work on chronic alcoholism, speaks of the alteration of the respiratory mucous membranes in drunkards, especially in the larynx. The mucous membranes of the larynx is violet-coloured, injected, or even covered with small points of ecchymosis, sometimes thickened, and with granular epithelium, and covered with thick mucous. If this alteration extend to the bronchi, the mucous membrane becomes greyish or slate-coloured, the small bronchi dilated, and emphysema occasionally ensues. The hoarse voice of drunkards is proverbial.

Whether acute pneumonia is or is not caused by alcoholic poisoning, there can be no doubt that alcohol exercises a considerable influence on the production, on the progress, and the termination of pneumonia. Abundant suppuration may be the consequence of pneumonia occurring in alcoholic poisoning. Ataxic or adynamic symptoms are frequently seen in the pneumonia of drunkards, and delirium may be superadded. The apex of the lungs is not infrequently attacked in the pneumonia of drinkers. This is probably the reason why delirium is frequently said to co-exist with this variety of pneumonia. The pneumonia caused by alcohol has this further peculiarity, that it is apt to come on in the hot season, just when ordinary pneumonia is rare.

Dr. Magnus Huss (*Alcoholismus chronicus*) speaks of chronic induration of the lungs in drunkards; but this, I think, is problematical. That phthisis pulmonalis is frequently caused by chronic alcoholic poisoning is now well known, especially since the monograph of Dr. Benjamin Richardson appeared. It has been noticed by other observers that granular phthisis is especially likely to be caused by habits of drunkenness.

The phthisical who become so from alcohol are ordinarily robust men, who have inherited excellent constitutions, and who are employed in healthy occupations, but who have become addicted to heavy drinking. In such persons, phthisis sometimes, in my experience, takes on a very rapid course, and may prove fatal in less than six months. In such cases, granular phthisis has been more than once observed by me at the North London Consumption Hospital, to which I was attached for many years. It is probable that the irritation caused by the alcohol circulating in the capillaries of the lungs is the cause of the abundance of the miliary granulations seen in such cases.

My own experience would lead me to say that drunkards are especially liable to contract pleurisy of an insidious form, with slight effusion and slow progress. The circulatory system is

often greatly damaged by chronic alcoholic poisoning. The vena portæ and the pulmonary artery are especially liable to be affected. Budd, in his treatise on diseases of the liver, mentions cases of pylephlebitis of adhesive type due to alcohol. The symptoms were similar to those seen in cirrhosis of the liver. There seems also to be arteritis of the pulmonary artery in some cases, which may cause coagulation of the blood and thus prove fatal. The patients complain first of dyspnœa, and there is sometimes cyanosis, at other times pallor of the face.

The arteries are not so much under the influence of alcoholic poison as the veins; but Huss first pointed out that atheroma was far from rarely found in the arteries of drunkards, in the aorta and cerebral arteries especially. Pericarditis, like peritonitis and pleurisy, is not unfrequently caused by alcohol. The heart also is not unfrequently attacked by chronic alcoholism, in which case the organ becomes larger, its colour is yellowish, and it is softer than in health. The increase in volume generally depends on dilatation of the cavities, and notably of those of the left heart. The muscles are rarely healthy. They appear imperfectly striated: they are granular and clearly degenerated.

The symptoms caused by those alterations of the structure of the heart are palpitations, dyspnœa, slight acceleration and then feebleness and slowness of the pulse, œdema of the lower extremities, without any abnormal valvular bruit.

The spleen is often enlarged in cases of chronic alcoholism, accompanied by cirrhosis. The alterations of the blood are, it seems, an increase of fat globules in that fluid, and occasionally an increase in the number of the white corpuscles. Anemia, pallor of the skin, palpitation, and oppression after the least exercise, are signs of the imperfect condition of the blood late on in the disease. Purpura is not infrequent in old drinkers. Certain subjects of Addison's disease have been known to be great drinkers.

The Nervous System.—False membranes are occasionally found covering the dura mater, especially in the parietal regions of the brain, and these, by pressure on the brain, may produce well-marked symptoms. The alterations of the arachnoid and pia mater are common enough in old drinkers, and are usually seen on the superior aspect of the hemispheres, near the longitudinal sinus. They consist in thickening of the membranes, which are opalescent, and often adhere to each other strongly. Sometimes I have seen the pacchionian glands made yellowish and more voluminous than in health.

The grey matter of the encephalon is most often attacked by chronic alcoholism. The capillaries are rarely quite healthy in old drunkards. They are dilated and sinuous, and greyish

granules are seen in the thickness of their walls. Hence the want of contractility of the vessels is lessened and stasis of the blood occurs. Such affections are apt to be accompanied by a slight degree of agitation, a weakness of the memory, and hallucinations more or less marked, with trembling of the hands and disturbed sensation.

Later on, atrophy and induration of the mass of the encephalon occur. The ventricles become dilated and filled with serum. The capillaries, the neuroglia, the cells, and the nerve tubes may all be attacked. There is connective hyperplasia of the tunics of the capillaries. Thus chronic alcoholism produces in the brain the same disturbances that it does in the tissue of the liver.

These diseases of the brain produce effects on sensation, intelligence, and movement. Formication, hyperæsthesia and anæsthesia are occasionally seen in drunkards. On the organs of spécial sensation alcohol causes certain disturbances. One of the causes of weak sight is now recognised to be alcoholic poisoning. It was long ago remarked (Boërhaave) that water drinkers preserve their sight much longer and have a better appetite than beer drinkers. Insomnia and dyspnœa are often bitterly complained of by drinkers. Dr. Marcet speaks of the dyspnœa of drunkards, and considers that it is caused by laryngismus.

The Intellect.—Insanity is, without doubt, very frequently due to alcoholic poisoning. Various authors have, naturally enough, given different reports on this point. Bayle attributes one-third of the cases of insanity to chronic alcoholism. Of 1,079 insane admitted into Bicêtre from 1808 to 1813, 126 were put down as caused by drinking. Of 264 cases of insanity observed in women in Salpêtrière Hospital, 26, according to Esquirol, were entirely due to the abuse of wine.

The great statistician, Casper, of Berlin, says that, as far as that city was concerned, nearly one-third of the insane coming from the poorer classes were made so by spirit drinking. In a calculation made by Carpenter, of 12,007 cases of insanity, 1,797 were caused by intemperance. Drs. Deboutteville and Par-chappe, in a statistical notice about the lunatic asylum of Seine Inferieure, found in twenty-eight years that the lunatics caused by alcohol were 28 per cent. of all the patients. Another author, M. Morel, places the figure at 200 in 1,000. In another piece of statistics, due to Archambault, 115 out of 1,595 cases were said to be due to alcohol.

In France the progression of cases of insanity due to alcohol has been an increasing one. Between 1826 to 1835 the proportion of insane persons at Charenton who owed their insanity to

alcohol was put down by Esquirol at 8 per 100. From 1857 to 1864 the proportion was actually three times as high—24 per 100. At Bicêtre M. Contesse found a proportion of 1,000 cases of alcoholism in 5,238 cases of insanity—a proportion of 19·09 per 100. The same author found, from 1855 to 1862, a great increase in the number of cases of alcoholic insanity: it had risen to 25·24 per 100. The forms of insanity observed were under the headings mania, lypemania, imbecility, and dementia.

As to mania, delirium tremens is only seen in individuals who, for a shorter or longer time, have made an excessive use of alcohol, and have thus been attacked with *chronic alcoholism*. Delirium tremens is quite different from the drunkenness which may attack a person unaccustomed to alcohol. There is, however, some confusion on the point in works on the subject. Delirium tremens is by no means a slight affair: it causes many deaths, partly from the accidents which may ensue.

The mania of persecution is a common form of chronic alcoholic nerve-poisoning. This form of insanity very frequently prompts to suicide. Casper mentions that one-fourth of the persons in Berlin who attempted to destroy themselves were drunkards. The brutishness of drunkards has been often well described; their stupidity and confusion of thought and imbecility are often notable.

Alcoholic epilepsy is almost always preceded or accompanied by some of the above-mentioned affections of the brain, and comes on especially after delirium tremens. Paralysis, too, is often clearly due to chronic alcoholic poisoning. First of all, we notice tremulousness of the fingers, which extends to the hands; the contraction of the muscles of the forearms is feeble, and the same phenomena are then observed in the lower limbs. The tendency of such paralysis is to become general.

The spinal cord is not so frequently attacked by chronic alcoholism as the brain; but there are doubtless numerous cases in which alcohol affects it. With regard to alcoholic affections of the eye, in one set of statistics, due to M. Galizousky, of Paris, 29 out of 704 patients with amblyopia owed their disease to alcohol or tobacco (*Ann. Oculist*, 1863, *Brux.*). Among the diseases ascribed to alcohol is glaucoma.

With regard to the genito-urinary system Dr. Bright used to say that no disease produced more deaths among drunkards than albuminuria. Drs. Gregory and Christison noticed that in Scotland whisky produced the great majority of cases of Bright's disease. Rayer, in Paris, did not find this to be so common; and Dr. Dickinson, in London, has recently made the same observation for the metropolis of England. Sir Henry Thompson

has recently advanced the opinion that diseases of the bladder are often due to chronic alcoholism. It is certainly true that catarrh of the bladder is frequent among drunkards. Roesch, one of the writers on alcohol (*Ann. d'hygiène et de Med. legale*, t. xx. p. 84) speaks of atrophy of the testis as being not infrequently caused by chronic alcoholism. These organs and penis are also very frequently atonic in drunkards, and not only is there impotence, but also absence of desires. In Egypt, Larrey remarked many cases of this kind. Hence it seems proved that chronic alcoholism is apt to cause premature senility of the genital organs. Probably the ovaries are affected also by chronic alcoholism, since women who are addicted to spirits are apt to have disordered menstruation, abortion, &c.

Darwin (zoonomia) considers that all the diseases produced by the abuse of spirits are hereditary. Many other writers argue that drunkenness in parents has a terrible influence on the health of the children, who are, it is said, liable to hydrocephalus, idiocy, and even to dementia. In 1860, M. Demeaux, in a letter to the Academy of Sciences, maintained that epilepsy in children was caused often by the parent being drunk at the time of conception. This, of course, is an observation difficult to prove, and which I attach but little credence to.

Individuals who inherit the effects of chronic alcoholism are described as being often marked with the seal of degeneration, especially of the nervous system. When infants they are frequently liable to convulsions, or remain idiotic or imbecile. When grown up they are frequently remarkable for the smallness of their head, and the stupidity of their expression. They are supposed also to have a tendency to drunkenness, immorality, and cynicism. Whether this be true or not, it is not the less certain that a father or mother who drinks is almost certain to deprave and ruin the morals of some of their offspring.

The dilatation of the vessels of the face, caused so frequently by chronic alcoholism, gradually gives place to the satin-like yellowish coloration of the integument, and the unwieldly fat of beer drinkers is well known in London charities. It may be said, in a general way, that spirit drinking is apt to produce adhesive inflammations; beer drinking, fatty degeneration. Since alcohol circulates unchanged through the tissues, we can readily understand its irritative action, causing proliferation of the cellular tissue, just as alcohol injected into the t. vaginalis testis does. It is not so clear to me why alcohol causes fatty degeneration.

The *Prognosis* of chronic alcoholism is often very grave. The insanity caused by it is usually of a severe type, and liable to relapses. Cirrhosis is almost always fatal, and so is Bright's disease. Then, alcoholism, as is so well known to surgeons,

causes many deaths from injuries which would otherwise prove innocent enough. In Sweden it has been found that in one province, Südermanland, where much spirits are consumed, there is an annual death-rate of 1 in 49, whilst in a very sober province, Yamtland, the mortality is but 1 in 80.

Etiology.—Spirits are far more injurious than wines and beers; and, generally speaking, the noxious influence of alcoholic liquors depends on their intensity. French wines seem rarely to cause gout. I found that gout is almost unknown in the hospitals of Paris. Diabetes mellitus has been said to be caused by cyder, and, according to Bouchardat, by beer. Whisky made from potatoes is said to be more apt to cause brutishness than ethylic alcohol. With regard to absinthe and other liqueurs, we are inclined to believe that the action of all alcoholic liquors is rather in proportion to the quantity of alcohol they contain than to the peculiar essences used to flavour them.

It is calculated that, in Sweden, each male consumes on an average 80 to 100 litres of spirits yearly. Fifty thousand persons are said annually to perish of alcoholic diseases in England and Wales. In 1822 Berlin had alcoholic establishments in one-fourth of the houses of the city. France, in many of its provinces, is decimated by the curse of drunkenness. Especially is this true in Brittany, Vosges, and Normandy. In Paris the amount of alcohol per person has gone on increasing during the whole of this century. Italy, Greece, and Spain are less inclined to drunkenness than the Northern countries of Europe. Drunkenness, according to Huc, is greatly prevalent in China.

Poverty, says Roesch, is one of the commonest causes of drunkenness. "A position which compels the workman not only to do without all the amenities of life, but even, whilst working with all his strength, to forego the most necessary things, is not the least of the causes of drunkenness. To still hunger, and make himself fitter for work, to warm his meagre frame covered with rags, to place himself in a position where he can forget his misery for an hour, the poor man has recourse to alcohol. The poison is not slow to become habitual in such a person; he soon forgets his family, and sinks into the profoundest physical and moral degradation." We must not suppose that alcoholic excesses are uncommon among the rich; but in that class alcoholism assumes a slightly different appearance, the cerebral phenomena are predominant, and the patient grows stout from the combination of good living with alcohol, as happens in New Zealand, where butchers' meat is 2d. a pound, wages high, and the death-rate low.

Age and Sex.—Chronic alcoholism is almost unknown before 20, and is very rare after 65. Very few women perish of alco-

holic poisoning as compared with men (13 in 200, Morel). In 170 cases of delirium tremens observed by Rayer, 7 alone were in women. Women, I am glad to say, scarcely ever smoke. During lactation the use of spirituous liquors is dangerous, if not for the mother, at least for the child, producing in it derangement in the digestive organs and convulsions.

The first temperance society seems to have been founded in Boston in 1813. The first European society was founded in New Ross, Ireland, in 1829.

It has been reserved for our days to witness the formation of a society of medical men so devoted to the cause of temperance as to band themselves together to oppose the drinking customs of society. The task is a difficult one. At this moment Great Britain and Ireland are supposed to expend some 140 millions sterling, out of their annual income of 1,000 millions, on drink. France has 2,000,000 of its inhabitants occupied in the culture of the vine. Germany is poor, and terribly afflicted with drunkenness.

But let us have courage and faith! There is a constant tendency in the human race to struggle upwards towards happiness and health. War becomes rarer, pestilence is better understood, superstition is waning, the epoch of science and humanity is coming nigh. A time will come—we cannot doubt—when civilisation will shake itself free from poverty, alcohol, and tobacco, and when a death-rate of $12\frac{1}{2}$ per 1,000 will be the ordinary mortality of civilised states, as it is among the inhabitants of New Zealand at present.



THE HEREDITY OF ALCOHOL; OR, THE INFLUENCE OF THE ALCOHOLISM OF PARENTS ON THE CONSTITUTION AND HEALTH OF THEIR CHILDREN.*

By NORMAN KERR, M.D., F.L.S., *London.*

THE most saddening, and, perhaps, the most serious, of the numerous evils inflicted by alcohol on human kind is the hereditary transmission, both of the drink-crave itself and of the pathological changes caused by indulgence in alcohol.

Physical disease, induced by habitual intemperance, is often transmitted. Alcoholic phthisis, for example, is a disease frequently

* Read at the International Temperance Congress, held at Brussels, August, 1880.

imprinted on the constitution of the unborn babe (*fœtus in utero*). Some very painful cases of this hereditary infliction have recently come before me. Hereditary alcoholic rheumatism and hereditary alcoholic gout are constantly to be met with. I have had under my care a life-teetotaler who has been repeatedly tormented by acute attacks of gout, though by his careful diet and mode of life he has disarmed the disease of half its terrors. He owes his besetting ailment to the alcoholic indulgence of his ancestors, and has inherited this legacy with the rest of the family property. In no other disease is the heredity of alcohol more marked. In England the proofs are everywhere around us.

Many other diseases produced by alcohol are the subject of transmission. Among the most characteristic are alcoholic cirrhosis and alcoholic contracted kidney. In one painful case of the latter, under my own care, the patient had been a total abstainer for nearly forty years, but he inherited the contracted kidney from an intemperate father.

The blood of the inebriate parent is so vitiated and his energies are so wasted, that even when there is a sober mother the innocent progeny are often brought into existence puny, stunted, and debilitated. Body and brain having been insufficiently nourished, the vital powers of such infants are so defective that, in their earliest years, they are literally mowed down. In the causation of the terrible infantile mortality which is such a disgrace to English civilisation, the drinking habits of the parent or parents have the largest share. Even when grown up to manhood the constitutions of the offspring of intemperate parentage are frequently so enfeebled and impaired that they succumb to a premature death from their lack of recuperative power after the exhaustion, following some acute illness, which a tolerably vigorous system would have perfectly recovered from.

Alcoholic nervous and mental diseases are also handed down. Hereditary alcoholic epilepsy, for example, is by no means uncommon. Defective nerve power, enfeebled will, and a debilitated *morale*, form a favourite legacy from thoughtless inebriates to their helpless issue. The nerves of the dipsomaniac are shattered while the bodily strength is undermined, and thus the family are liable to be mentally afflicted. Some of the circle, generally the daughters, may be nervous and hysterical; others, generally the sons, are apt to be feeble and eccentric, and to fall into insanity when any emergency calls for the display of unusual brain power. In one household, with a drunken father, two girls were hysterical, and a third was an imbecile; of the sons, the eldest was an epileptic, the second died suddenly of alcoholic apoplexy, and the third was an idiot. In another family, bur-

dened with the hereditary drink curse, the eldest daughter committed suicide, the second lost her reason and became quite demented, and the youngest was the incarnation of hysteria. The elder son killed himself by poison through drink, and the younger is an apparently confirmed sot.

Absence of intellect from infancy, or idiocy, not unseldom follows of necessity from parental excess in alcohol. Dr. Howe, in his well-known Report on the State of Idiocy in Massachusetts, states, that the habits of one or both *parents* of 300 idiots having been learned, 145 of these children, *or nearly one half* were found to be the progeny of habitual drunkards. Dr. Down, no mean authority on mental disease, did not think this an exaggerated statement. Many attempts have been made to discredit Dr. Howe's statistics, but none of these attempts have been successful, and I fear we must confess the figures are only too true. Dr. Howe gives the case of one drunkard who was the parent of seven idiots. Dr. A. Mitchell, in his evidence before the Committee of the British House of Commons, said he was quite certain that the children of habitual drunkards were in larger proportion idiotic than other children; a belief shared in by M. Rousel, M. Taquet, Dr. Richardson, and a host of competent observers. In private practice the proofs of the influence of parental alcoholic excess in the generation of amentia are continually confronting me; and among my professional *confrères* there is no difference of opinion on the subject.

That the impairment of the bodily or mental faculties arises from the intemperance of one or both heads of the family, is demonstrated by the healthfulness and intellectual vigour of children born while the parents were temperate, contrasted with the sickliness and mental feebleness of their brothers and sisters born after the same parent or parents became intemperate. In one case, there were first a son and daughter, both excellent specimens, mentally and physically, of vigorous humanity. After the birth of the daughter the father fell into habits of dissipation, and rapidly became an habitual drunkard. He had four children after his declension to insobriety. Of these, one was defective in mind, and the remainder were complete idiots.

There can be no reasonable doubt, in fine, that not the least painful and unavoidable effects of intemperance in alcohol are the physical and mental debility and disease it entails on posterity. Darwin, in "the Botanic Garden," in 1794, pointed out this fixed and immutable law. Nearly all the diseases springing from indulgence in distilled and fermented liquors are liable to become hereditary, and to descend to at least three or four generations, unless the hereditary tendency be starved out by uncompromising and persistent abstention from all intoxicating drinks. This is

no speculative theory, no visionary hypothesis. It is a well-grounded belief founded on accurate observation—a legitimate conclusion deduced from extended experience, and based on incontrovertible facts.

But the most distressing aspect of the heredity of alcohol is that the transmitted narcotic and insatiable craving for drink—the dipsomania of the physician—is every day becoming more and more prevalent. Probably this alarming increase in the alcoholic heredity in England is owing, in great part, to the unmistakable increase of female intemperance amongst us.

Not long since, I was called to a lady, sixty-three years of age, evidently dying. All that I was happily able to accomplish was, by the aid of powerful medicinal stimuli, to restore her failing consciousness for a few brief moments while her spiritual adviser addressed to her a solemn exhortation. She was an habitual drunkard, getting drunk regularly every night, and when drunk she lost all sense of shame and decorum. She was a victim to the hereditary drink crave. The only other members of her family, two sisters, were also hereditary dipsomaniacs. The one died in an asylum from insanity caused by drinking, and the other is so confirmed a drunkard that she has to be constantly watched.

The hereditary transmission of an innate proneness to excess in alcohol, of a special susceptibility to habitual and abandoned intemperance, has been recognised from the earliest times. Plato referred to the injurious effects of intemperance both on the parent and on the child. Plutarch wrote—“*Ebrii gignunt ebrios* ;” and Aristotle taught that “drunken women bring forth children like unto themselves.” The Parliamentary Committee of the British House of Commons, in 1834, in their Report on Intemperance, state that the evils of alcoholism “are cumulative in the amount of injury they inflict, as intemperate parents, according to high medical testimony, give a taint to their offspring before its birth, and the poisonous stream of ardent spirits is conveyed through the milk of the mother to the infant at the breast; so that the fountain of life through which nature supplies that pure and healthy nutriment of infancy, is poisoned at its very source, and a diseased and vitiated appetite is thus created, which grows with its growth, and strengthens with its increasing weakness and decay.”

One more example, which has come under my own professional observation, may be useful. A gentleman of position, sixty-four years of age, is an hereditary drunkard. So violent is he that his wife and family have had to leave him. One of his sisters (unmarried) is an imbecile through drinking. She has frequently tried to commit suicide, when drunk, by hanging, by poison, by

jumping from a window, and by drowning, Her insanity has so suicidal a tendency that she cannot be left for a moment alone—all the repeated efforts at self-destruction which I have just enumerated having been attempted while the attention of the attendant was withdrawn from her for a few seconds. She will do anything for drink—will beg, borrow, or steal, pawn everything she can lay her hands on, and even essay robbery with violence in the hope of obtaining money to gratify her morbid craving for alcohol. Another sister (married) is also an habitual drunkard, who gets into fits of ungovernable fury when in drink, and being dangerous both to herself and others, is under restraint. Thus all the family are dipsomaniacs. The fatal legacy in this case was from both parents. The father shot himself when labouring under alcoholic mania, and the mother was an inveterate drunkard. The grandfather was also a confirmed inebriate.

Some are of opinion that when the father is addicted to drunkenness the girls are the most liable to be the subjects of hereditary alcoholism, and when the mother is the culprit the sons are specially endowed with the family failing; but upon this point I can at present form no reliable opinion. That the female parent is the more general transmitter of the hereditary alcoholic taint I have little doubt. In a London prison, recently, female representatives of four different generations of one family were incarcerated, at the same time, for drunkenness or offences connected therewith. In my own observation, the female members of several families, which suffered under the infliction of drunken mothers, have all, except those individuals who have become rigid teetotalers, lapsed into being hardened drunkards. In one case, the females of two successive generations, and in another case of three successive generations, have all formed an unbroken chain of reckless inebriates; and then all at once their successors in life have exhibited an utter loathing for alcohol in every shape and form. Apart from any outside temperance influences, an instinctive and irrepressible abhorrence is sometimes seen, simultaneously and of its own accord, in the children of the third or fourth generation of families formerly, apparently, helplessly and firmly bound by the iron fetters of the heredity of alcohol. The very extent of the evil seems to have worked out its own cure. The depths of misery and despair into which the relentless tyranny of alcohol has, by inheritance, plunged its victims seems to have permeated their whole being with hatred of their enslaver, and to have inspired them with the determination to strike a blow for freedom, and, casting off for ever the yoke of the oppressor,

To burst the chains which drink for ever flings
On the entangled soul's aspiring wings.

The inherited drink-crave, where it exists, even when from the absence of temptation or from the strength of resolute will it has never been made manifest, is always latent, and ever ready to be lit up at the faintest alcoholic provocation. The smallest sip of the weakest form of fermented or distilled liquor has power to set in a blaze the hidden unhallowed fire. Persons ignorant of the inexorable law of heredity in alcohol, indiscriminately rebuke and denounce the vicious drunkard and the diseased dipsomaniac. But to medical experts it is as clear as is their own existence that there are multitudes of persons, of both sexes and in all positions in life, who, though they may never have yielded to the enticements around them, are yet branded with the red-hot iron of alcoholic heredity. There is no nobler sight on earth than the triumph of such weighted ones over their lurking and implacable foe—a foe the more terrible that it lies concealed within their own bosom. The only safety for all such lies in entire and unconditional abstinence from all alcoholic drinks. Such must shun all the alcohols. Every fermented and distilled liquor is their enemy. Though added horrors, such as delirium tremens, may be heaped up by a resort to impure spirits and the heavier alcohols, the purest ethylic alcohol, or the weakest and most delicate fermented wine, is strong enough to awake the dormant appetite, and provoke a thirst too often, alas! quenched only in death. Whatever their station or their accomplishments, the subjects of the inherited drink-crave can abstain or can drink to excess, but drink moderately they cannot. If, in a state of consciousness, they taste an alcoholic beverage at all, whether on the plea of sickness at the prescription of a physician or on the plea of religion at the exhortation of a priest, they are in imminent danger. Their whole system is, as it were, set on fire. Unless happily enabled to master the giant appetite in the very first moments of its reawakened life, they are truly taken possession of by a physical demon, a demon easily raised, but, once raised, almost beyond the power of even a Hercules to slay.

To prevent misapprehension, it is well here to state that all the evil resulting from hereditary alcoholism may be transmitted by parents who have never been noted for their drunkenness. Long continued habitual excessive indulgence in intoxicating drinks to an extent far short of pronounced intoxication, is not only sufficient to originate and hand down the morbid tendency, but is much more likely to do so than even oft-repeated drunken outbreaks with intervals of perfect sobriety between.

In what consists these influences of the alcoholism of parents upon the constitutions of their children? The mother probably is the more potent factor in the transmission. She exerts an influence, not only equally with the father in the conception, but,

in addition, during the whole period of utero-gestation, wields a special influence on the unborn child. Exact records are wanting, but I have remarked a preponderance of the maternal influence in the causation of alcoholic heredity in many cases in family practice.

Alcoholism seems to impair the vital properties of the fecundating material, and thus from the very beginning the child of one or two intemperate parents is burdened with an inherited constitutional idiosyncrasy. Then the depraved moral sense is transmitted, just as are other heritable mental and moral defects. When the heredity is from the mother, it seems to me that it arises mainly from the defective nutrition of the nervous centres, of the cerebral and spinal substance, during the entire uterine career. The continued action of nervine stimulants modifies the nutrition of the nervous system, and it is this acquired perversion of the normal nutrition of the nervous system which is conveyed from parent to child and constitutes heredity in alcohol.

The nerve cells are built up and kept in adequate repair by the nutritive plasma from the blood. This process is essentially a healthy function, the health of the mind as well as of the body depending on the proper nutrition, growth, and repair of the cells. By taking alcohol (whether the least poisonous, as the ethylic, or the more poisonous, as the butylic or amylic), we cause the blood plasma to convey to the cells an irritant narcotic poison instead of a bland nutritious substance, we stimulate the cells to a rate of waste too rapid for efficient renewal, and thus set up a depraved diseased condition.

Alcohol disturbs the balance of the mental powers. Its action is to destroy the equilibrium of the organic functions of the mind, and by this interference it brings about undue depression of some of the functions, and undue exaltation of others. This abnormal mental unsteadiness produces in the children of such parents a badly-balanced and weakly condition of the brain and whole nervous system, as well as the moral faculties, and thus both the mind and body of the offspring of parents whose mental and physical being is steeped in alcohol, are disposed to take a diseased action. A crowd of nervous disorders is the inevitable outcome. The mortality among children so afflicted is enormous, and when they survive the period of childhood, epilepsy, apoplexy, cerebral and meningeal disease and insanity work sad havoc with the survivors.

The heredity of alcohol is now beyond dispute. It is no mere dream of an abstemious enthusiast, but the operation of a natural law; *no fanciful creation of a nephalian brain*, but an acknowledged fact. Men and women on whom this dread inheritance has been forced without their consent are everywhere around us,

inquiry; which have been, in fact, either absolutely ignored, or utterly misinterpreted. These are,—the diminished elimination of carbonic acid by the pulmonary surfaces; and the lowering of the animal temperature; under the influence of alcohol.

A just appreciation of these facts is essential to the formation of any trustworthy conclusions on the subject; and those plausible pretences plentifully presented in favour of the usefulness of alcohol which have been developed while they have been left out of consideration have no claim to scientific regard.

The most concise *resumé* of the physical properties of ethylic alcohol must suffice. We must consider (*a*) its volatility (passing into vapour at 56° F.), (*b*) its perfect and singular diffusibility in aqueous fluids, (*c*) its low boiling point (173° F.), (*d*) the great density (1.61) and (*e*) high elastic force (4.50 at 98.4° F.) of its vapour, (*f*) its great solvent powers over fats and fixed oils. Chemically it is a result of the decomposition of organised materials, its twin product being carbonic acid; as a product of retrograde metamorphosis it possesses great molecular stability, in contrast with the known supporters of animal life; at moderate temperatures it undergoes no change, and it prevents and arrests change in other bodies.

Certain definite effects, it may be predicated, must attend the introduction of a substance with such characteristic properties to the physical arrangements and the vital processes, especially to the temperature of the living body.

Actual observation demonstrates that specially remarkable and physiologically most exceptional phenomena attend the reception of this alcohol into the system. There is—

(1) A DIMINISHED ELIMINATION OF CARBONIC ACID BY THE LUNGS.—This result, Prout* and Vierordt† observed, followed “*almost instantaneously*” very minute doses of alcohol, and continued for many hours, even into the next day. Hammond‡ and Perrin,§ influenced by prevalent theories, failed to notice this *instantaneous* effect, having purposely delayed making their observations—the former for from one to five, the latter for two hours—after so-called dietetic doses of alcohol, the latter observer using the light wines and beers of France. Even after those intervals a diminution of carbonic acid ranging from 5 to 25 per cent. was an invariable result. The exactitude of these valuable observations places them beyond all dispute.

(2) A LOWERING OF THE TEMPERATURE OF THE BODY.—This

* Annals of Philosophy, 1813-1814.

† Physiolog. des Athmens. Karlsruhe, 1845.

‡ Amer. Jour. of Med. Science, 1856.

§ Gazette Hebdomadaire de Med. and de Chir., 1864.

fact, long familiar as a matter of practical experience in high latitudes, has within recent years been determined by exact experiment and observation: in alcoholic coma the temperature has been found lowered 8° F., and Richardson has found three days to elapse before the full re-establishment of animal warmth. An important research recently presented, "On the Thermogenesis of Alcohol," by Dr. Bevan Lewis,* while contending for the heat-producing power of alcohol, admits a marked lowering of the body temperature under its influence. M. Perrin's† observations also indicate an invariable lowering of temperature under the influence of alcohol.

These effects of alcohol prove incontestably that it interferes profoundly with the most important vital functions, and it cannot be disputed that these deviations from the normal conditions under which the vital processes of the animal system are sustained are of most serious import. These facts also are utterly inconsistent with, and subversive of, the idea that alcohol in any form or in any degree is decomposed in the system, and they are by no means the only facts which point towards that conclusion. When we consider further the full import of the fact that alcohol unchanged has been recovered 24,‡ 32,§ and even 120|| hours after its ingestion; and in appreciable quantities, from every organ and tissue and fluid of the body, and also from every free exhalant surface, especially, as universal consent of testimony proves, from the lungs,—with the additional fact that the most painstaking search of anxious and not always unprejudiced investigators has utterly failed to detect any evidence of its change, it becomes nothing short of a certainty that alcohol is not consumed in the body.

In view of all the facts now available, it may safely be maintained not only that it is not decomposed, but that it is not decomposable by the vital forces.

The failure to recover the whole amount of the alcohol ingested, on which so much has been based, is no reason for assuming, as has been so confidently done, that it is decomposed and thus disappears. Its absolute and singular diffusibility throughout the relatively immense mass of fluids, and more or less solid tissues of the body, even to their ultimate cell elements, with some of the fatty constituents of which, from its high solvent power over them,¶ it must mingle most intimately, if it does not

* Journal of Mental Science, April, 1880.

† Gazette Hebdomadaire, 1864.

‡ Subbotin.

§ Perrin, &c.

|| Parkes and Wollowicz.

¶ Alcohol at 113° F. dissolves all the brain fats, and retains a considerable proportion in solution, even when cold.—*Thudichum's Researches on the Analysis of the Brain.*

actually combine, temporarily at least, as is assumed by an observer so sagacious as Parkes,* is an abundantly sufficient reason why it cannot be recalled any more than other "spirits from the vasty deep," at the pleasure of inconsiderate experimenters.

We thus justify the views put on record twenty-five years ago, the expression of which is unfortunately as appropriate to-day as it was at that date. We then said, and now repeat, "that an egregious mistake has been committed by scientific and professional writers on the employment of alcohol—a blunder into which even those who have undertaken the advocacy and defence of total abstinence on scientific grounds have deliberately stumbled. This mistake has been to acknowledge, or to take for granted, that the living human system is capable of decomposing the alcohol which it receives, and that it thus turns the elements of which it is composed—the carbon, and hydrogen, and oxygen—to good account in the sustenance of life. Around this assumed fact, as a centre, a whole host of worthless and mischievous pretences for the use of alcohol on physiological and therapeutic grounds is made to cluster. It is the keystone of Liebig's fallacious theorising, which has been so widely and unhesitatingly accepted, and used with so much success, especially among the medical profession, to justify the common use of alcohol. This assumed fact we are prepared to deny, or rather we do deny it, and are prepared to give our reasons. But, in the meantime we demand, as we have a right to do, from those who have assumed it to be a fact, the proofs which they ought to have in their possession. These are yet to be produced, for the idea stands forth in the writings of scientific men as a stark-naked assumption without a single proof worthy of the name." †

Let us now endeavour to trace the mode in which alcohol operates to produce these most important and significant deviations from the normal condition, viz., the diminution of the exhalation of carbonic acid, and the depression of the body temperature; and here it will be found that the recognition of the physico-chemical properties of alcohol will guide to the explanation of these complex and mysterious phenomena. The ingested alcohol is not digested, but passes at once from the stomach through the portal system, and reaches the right side of the heart along with the blood fully charged with carbonic acid. On reaching the pulmonary surfaces, in virtue of its high elastic force—4.50 at the normal temperature of the body—a certain portion of it is immediately exhaled. It has occupied so much of the exhalant surface of the lungs, contending with its congener carbonic acid for an exit. A certain amount of carbonic acid must have been displaced from its special

* *Practical Hygiene*, p. 274, 1873.

† *Abstainer's Journal*, 1855.

exhalant surface, and, detained in the blood with the unexhaled alcohol, it is passed on in the general circulation, where by-and-by we shall trace its operation. The exhaled alcoholic vapour reaches the large body of *residual* air in the lungs, where, in virtue of its high vapour density, and by the absence of those conditions which would favour its outward progress—such as are provided in the case of carbonic acid by the law of the interchange of gases—its expulsion from the respiratory area is retarded; at each movement of the *tidal* air part of the alcohol is expelled, part condensed and repelled; for this strange agent can be inspired as well as expired by the lungs, while the residual air at every beat of the heart is receiving more alcohol from the blood; there is thus interposed a further physical obstacle—a veil of alcoholic vapour, we know not how dense and obstructive, at once to the free exit of the carbonic acid from and the ingress of oxygen to the pulmonary surfaces. The exact amount of influence which the diffusible but dense vapour of alcohol thus exerts in retarding the interchange of gases in the lungs is at present under investigation by Dr. Aitken, of the Edinburgh University.

By a natural transition we proceed to inquire as to the influence and operation of the vitiated circulating fluid. The blood charged with the unexhaled alcohol, with excess of carbonic acid, and with diminished supply of oxygen, passes from the lungs to the heart, which, acting under its special susceptibility to the direct exciting action of alcohol, sends it onwards with abnormal rapidity and force throughout the general circulation, thus compelling in every organ and tissue increased cell-activity. In this imperfectly depurated and imperfectly oxygenated blood, driven onwards at an abnormal rate through the tissues, with the increased force and frequency of the heart's action under the spur of the alcohol, we have supplied all the conditions required to determine the production of the infinitely varied degenerations of tissue which are so prominent in the histological changes produced by alcoholic indulgence. The increased activity of the circulation compels proportionately increased activity in the cell changes in all the tissues; and the essential condition for normal metabolic change—sufficient supply of oxygen—being absent, the requisite changes in the blood and every organ and tissue are in consequence imperfectly effected. The products of this partial metamorphosis, especially such as are derived from the more complex and highly organised tissues, may be traced:—those in which the nitrogen, phosphorus, sulphur, and some of the mineral constituents of the tissues pass into the blood, in a soluble state, while the carbon and hydrogen, with some mineral elements, in the shape of the various abnormal fats and other morbid formations, remain as the constituents of the degenerated

tissues. Abundant evidence in accordance with this view could be adduced from the many valuable and most instructive enquiries which have been prosecuted, as to the histological and chemical character of these degenerations. The effect of these degenerative changes on the functional efficiency of important organs and tissues is a fruitful field yet waiting investigation.

The researches of Pasteur have shown that active cell life can go on, and products of change be evolved, in the entire absence of air; this fact and the peculiar changes known to occur in dead muscular and other tissues, as in the production of adipocere, in which the chief factor is the more or less complete exclusion of oxygen, reflect some interesting light on the actual as well as the possible transformations which evolve or may evolve in the more highly organised living tissues in the special circumstances under discussion.

In thus tracing so formidable a series of results to the action of alcohol in connection with tissue degenerations, regarding it as, indeed, the *fons et origo mali*, we recognise the peculiar appropriateness of the designation which it has received, viz., "The genius of degeneration."*

Let it not be supposed, however, that we ignore the other causes which are in operation to produce tissue degeneration, and intensify and aggravate this action of alcohol; atmospheric and dietetic conditions contribute largely to the production of the multiform varieties of tissue degeneration, but all combined these are as "*a drop in the bucket*" compared with the influence of alcohol in the varied forms under which it is consumed.

The argument has been used that if the result of the action of alcohol was to detain carbonic acid in the system, it could not fail to be speedily fatal; but the capacity of the great mass of the blood and other fluids of the body for storing up and disposing of the soluble products of those perverted transformations, as well as the capacity of the tissues for retaining the insoluble products, is as yet altogether unknown, and cannot be limited.

It is submitted that both the mode of production and the effects of the diminished exhalation of carbonic acid by the lungs, as now much too concisely and imperfectly set forth, are in entire accordance with all that is surely known of the physico-chemical properties of alcohol, and of its action as a physiological and pathogenic agent in the living system, and are also consistent with its recognised action as a truly therapeutic agent, which obviously must be limited to those very rare conditions in which the diminished sensibility and lessened

* Dickinson—*Lancet*, 1872.

vitality attendant on excess of carbonic acid in the system can be regarded as salutary.

The lowered vitality inseparable from the circulation of a blood imperfectly vitalized through the vitiation of the respiratory function, and becoming increasingly so, while alcohol remains in the system, with every respiratory act, and every throb of the pulse, supplies an abundantly sufficient explanation of the lowered animal temperature so uniformly exhibited by subjects under the influence of alcohol.

Before concluding, it may be well to refer in a few words to the lively controversy long sustained, and still undecided, as to the special action of alcohol — whether its action be stimulant, or whether it be narcotic — the assertions on the one side being as emphatic as on the other. We believe that the explanation and solution of the controversy lies in the fact that the phenomena of alcoholic intoxication in all its varied degrees of intensity present features which are complicated by the operation of two agents. In the first instance, and immediately on the imbibition of alcohol, general excitement occurs, a universal *sur-excitation* prevails, a seeming exaltation of vital activity throughout the frame; but very soon, mingled with this, there appear unmistakable signs of impairment of sensibility, of vasomotor activity, of control of mental processes and bodily movements. The struggle of excited action is maintained as long as possible; and in some degree it may be traced through the deepest insensibility; but soon indications of a depression of all vital activity appear, the heart and forces of circulation are lessened in power, respiratory movements are weakened, sensibility of nervous centres is impaired, even to coma and death. The action of alcohol alone, we submit, is insufficient; but alcohol with superinduced excess of carbonic acid fully suffices to explain these complicated phenomena.

Renewed and more extensive observation ought to be directed to the interesting question of the effects of the detention or accumulation of carbonic acid in the circulation. According to the unique experiments and observations of Lehmann,* the symptoms correspond most remarkably with the phenomena of alcoholic intoxication even in its early stages.

From the facts and ideas now presented, much too concisely for their fair and adequate representation, some conclusions of great practical importance are to be drawn. Whatever estimate may be put upon the explanation now offered as to the *modus operandi* by which alcohol produces the diminished exhalation of carbonic acid, the lowering of the animal heat, and the various

* Physiological Chemistry, vol. i. p. 560, Americ. Translat.

degenerative changes so inevitably associated with its action,—these facts stand as unquestionable consequences of its presence in the human organism, and must be regarded as of transcendent importance in all questions affecting the employment of alcohol, especially as a dietetic or therapeutic agent.

The great point must no longer be disregarded or ignored, that these consequences follow *immediately* on the reception of very *small* doses of alcohol, so quickly as altogether to exclude the possibility of any action in the direction of diminished metamorphosis of the tissues, and, in fact, under such conditions of increased vascular activity as must determine the production of augmented tissue change. The fact, then, of increase of change products being coincident with diminished elimination must be accepted.

Finally, in few words, we conclude,—

1. That the claim that alcohol can be regarded as in any sense a *food* must be definitively discarded.

2. That the claim that alcohol can be regarded as a stimulant of any value to life can only be accepted in view of its effects: it certainly spurs to the depression of the most important vital activities.

3. That the claim that alcohol can be regarded as a therapeutic agent can only be admitted when exalted sensibility requires to be repressed, and when the detention of the products of vital changes in the system is a lesser evil than the disease for which it is employed. *Whoso hath wisdom let him decide.*

We must refer to one consideration of special interest in connection with the relation of the action of alcohol to its physical properties, and one of great practical import. Careful observers have been led by experience to the conclusion that in all but the most extreme degrees of morbid organic changes produced by alcohol, and even in the maddest excitement of delirium tremens, the living system has a marvellous power of elimination and recuperation, which only requires to be aided by the absolute withdrawal, and not hindered, as it too frequently is, by the continuance of the cause, to allow of the vital energies of the system putting to rights the most woful train of evils—*Causa sublata tollere effectus.*



THE INFLUENCE OF ETHYLIC ALCOHOL ON TEMPERATURE.*

By HARRISON BRANTHWAITE, F.R.C.S.Ed., *Willesden*.

To demonstrate clearly and indisputably the physiological action of alcohol upon the living human frame is one of the most important questions of the day—a question worthy the attention of men of the highest intellect and the noblest feelings, involving as it does the solution of social and political problems of vital importance to the world at large.

It is alleged that society suffers from the prescription of drinks containing alcohol in all kinds of diseases, acute and chronic, without any scientific basis for such prescription, and that there is an equal want of sound philosophical reasons for admitting beverages containing this agent as articles of daily consumption in health.

There exists some ground for these allegations, seeing that medical men differ most materially in their views respecting the precise effect of alcohol upon the system; consequently how and when it ought to be administered are equal matters of dispute. Scientific men cannot remain passive in the midst of such conflicting opinions; they must settle the controversy, unravel the mystery, and make clear what is now enveloped in doubt and uncertainty. This they are bound to do, not only as men to whom suffering humanity appeals for help and succour in the hour of its greatest need, but as men whose duty it is to guard the public health, as philosophers and philanthropists, regarding their profession from the lofty standpoint of Hufeland, who says: "Thine is a high and holy office; see that thou exercise it rightly—not for thine own honour, or glory, or profit, but for the good of God and the welfare of thy fellow-men."

It is not my intention to treat the general physiological question. Whether alcohol be wholly or partially eliminated: whether it be a conserver of tissues: whether it be oxydised and prevent denutrition: whether it assist digestion or the reverse: whether it be a stimulant and restorative, or a sedative and narcotic, are questions I shall not at present discuss. My contribution to the work of the Congress will be restricted to the consideration of one of the many points arising from the second question on the programme—viz., "The study of the physiological action of pure ethylic alcohol." The point to which I especially direct your attention is, "The influence of ethylic alcohol on temperature."

Most probably in the regulation of the temperature of the body

* Read at the International Temperance Congress, held at Brussels, Aug., 1880.

lies the key to the solution of many problems of medical science. The value of the clinical thermometer in the hand of a careful observer cannot be over-estimated; and I believe it is destined in the future to play an important part in the treatment of disease and the solution of the vexed question, What to eat, drink, and avoid in health.

Sanctorious, who died about 1638, was the first to apply thermometric instruments of his own manufacture to determine temperature. Nearly a century, however, passed before the measurement of temperature by Boerhaave was, by means of improved instruments, reduced to a science. In England, in 1740, Martin published the first accurate observations on temperature in healthy men and animals. Currie, in 1797, made his observations available for medicinal purposes. For forty years following the science of thermometry seemed in danger of being forgotten; but in 1840 earnest men again began to investigate the subject.

The results of past researches with regard to the effect of alcohol upon temperature are not easily summarised: notwithstanding their great importance, they are only to be found scattered here and there in medical and other scientific journals. Liebig's view, that alcohol in the body combined with the oxygen to furnish heat, was a theory long held; the first expression of doubt as to its truth was, as opinions often are when antagonistic to preconceived notions and prejudices, treated with levity. For ages past chemists and physicians had regarded alcohol as an excitant; in spite of this, physiologists persisted in experimenting, eliciting facts, and obtaining results not to be ignored.

DR. JOHN DAVEY IN 1845.

Dr. John Davey, as far as I have been able to ascertain, was the first to publish the result of any observations; his remarks are to be found in the "Philosophical Transactions of the Royal Society" for 1845. Objections were taken to his conclusions because of the unreliability of his instruments.

NASSE IN 1845.

Nasse in the same year (1845), by experiments upon rabbits, demonstrated the tendency of alcohol to reduce temperature.

LICHTENFELS AND FRÖHLICH IN 1852.

Lichtenfels and Fröhlich, in 1852, experimented with beer, wine, and alcohol; they concluded that by the exhibition of alcohol the temperature was reduced, that such reduction was preceded by a slight rise due to the stimulating action of the alcohol on the blood-vessels of the mouth.

DEMARQUAY AND LECONTE IN 1859.

Demarquay and Leconte, in 1859, adduced similar evidence as to a general reduction of temperature.

DR. RICHARDSON IN 1865.

Dr. Richardson, in 1865, brought the subject before the British Association during its sittings in Birmingham, and there stated his convictions that both ethylic and methylic alcohol reduced temperature. During the discussion following his paper, whilst it was not denied that such a result might follow the use of methylic, doubts were freely expressed as to such being the case after ethylic alcohol; exception was also taken to the manner in which the experiments had been conducted. In consequence of this, Dr. Richardson eliminated from the paper all reference to temperature in respect to either alcohol.

TSCHESCHECHIN IN 1866.

A Russian investigator, in 1866, after experimenting upon rabbits, said that alcohol reduced temperature.

RINGER AND RICKARDS IN 1866.

Ringer and Rickards, in the *Lancet* (August 25, 1866), give the result of their observations on persons in a normal condition as follows:—In two out of three, to whom a large dose was given, there was a marked depression, amounting to 3° Fahrenheit. In the third case, a confirmed drunkard, the effect was slight; they argue from this that habit lessens the probability of the temperature being influenced. In eleven cases, with ordinary doses, eight showed a reduction of temperature, three were unaffected, two out of the three being confessedly free-drinkers; the general conclusions being that alcohol, in ordinary quantities, caused a slight depression, but so small as not to be of any consequence.

DR. RICHARDSON IN 1869.

When the British Association met at Exeter in 1869, Dr. Richardson again read a paper, in which he showed that ethylic alcohol, in large doses, reduced the temperature in birds 8 deg. Fahrenheit, and in animals 4 deg.

DR. TIMMERBERG IN 1869.

Dr. Heinrich Timmerberg, in 1869, found as the result of observation and experiment upon animals that alcohol always reduced temperature.

DR. THUDICHUM IN 1869.

Dr. Thudicum, in 1869, said: "Alcohol, in large doses, reduces temperature, but moderate doses have an opposite effect."

DR. FELTON IN 1869.

About the same time Dr. Felton, of America, gave sixty-two cats hypodermic injections of alcohol, and made 230 thermometric observations. In the healthy cat there was invariably a reduction, which rose afterwards above normal; he observed, when the dose was repeated, the rise was checked.

PARKES AND WOLLOWICZ IN 1870.

In May, 1870, a paper, by Parkes and Wollowicz, was read to the Royal Society on the "Effects of Ethylic Alcohol." In their experiments brandy and alcohol were used; little effect upon the temperature was observed, that little being in the direction of increase rather than decrease; subsequent experiments with red Bordeaux wine showed similar results.

PROFESSOR BINZ IN 1873.

At the meeting of the British Medical Association at Bradford, in 1873, Professor Binz read a paper, in which he stated that small doses of alcohol produced no extraordinary increase or decrease of temperature; that moderate doses showed a distinct decrease of about half-an-hour's duration or more, and inebriating doses a still greater lowering of from 3° to 5° Fahrenheit. He also considered that when the system was inured to the use of alcohol moderate doses indicated no measurable cooling, or the reverse.

PROFESSOR SEE IN 1873.

Professor See, in 1873, remarks: "Alcohol is a very active refrigerant; ten grammes of diluted alcohol given to a middle-sized dog lowered the temperature 1 deg. in ten minutes." In the same paper the learned professor argues that hygienists and physiologists have only to consider the action of alcohol on the forces in moderation and ignore altogether any responsibility for the effect of large doses.

EXPERIMENT BY DR. RICKARDS IN 1873.

Ringer, in his "Handbook of Therapeutics," published in 1873, gives an experiment by Dr. Rickards. A drunkard had twelve ounces of brandy administered in one dose without any reduction of temperature, although it made him dead drunk.

CHARTERIS IN 1879.

Charteris, in his "Handbook of Medicine," published in 1879, says: "The taking of alcohol first causes a fall in temperature which does not last long, for it requires a considerable amount to have any material influence."

Many other eminent physiologists might be referred to, whose observations and experiments have shown equally varying results. Sufficient, however, has been given to prove that there is great need for further investigation. A careful study of the researches of others revealed contradictions which I found it impossible to reconcile, and therefore I resolved upon conducting a series of experiments which, though at present incomplete, have proved so interesting that I make no apology for presenting them to this Congress. A fatal objection may be raised to the majority of experiments hitherto presented; they have been conducted with different kinds of beverages, containing alcohol in various and uncertain quantities, which, as Dr. Edmunds says, "can never be brought fairly into line for scientific examination." In all my experiments, in small and what may be considered moderate doses, I have used ethylic alcohol sp. gr. $\cdot 795$ of certified purity. The temperature has always been taken under the tongue, in a room as nearly as possible of one temperature. I have reason to believe, from proof obtained by myself, that no better results are obtained when the temperature is taken in the rectum, whilst, for obvious reasons, persons more readily consent to be experimented upon when the temperature is taken in the mouth. I have not utilised the lower animals; the circumstances under which they are experimented upon are such as to render the results more or less unreliable. Besides, great care is required in applying to the human system any results obtained from such experiments, therefore I have chosen to investigate the subject in its influence upon the system of which I know most, and in the treatment of which, as a medical man, I am the best acquainted.

In endeavouring to arrive at some conclusions, I have not been unmindful of the fact that much must necessarily depend upon whether the person under examination had been in the habit of imbibing alcohol in any one of the many forms in which it is popularly provided. I have, therefore, carefully selected my subjects for experiment from two classes—first, total abstainers; and second, moderate drinkers.

The result of my observations upon twenty-seven total abstainers is as follows:—

One with twenty minims: No immediate increase of temperature followed, but in three-quarters of an hour a fall of $\cdot 6$ Fah. was registered, lasting three-quarters of an hour. On a subsequent day, under precisely similar circumstances, the same person took ten minims; in half-an-hour there was a fall of $\cdot 2$ Fah., which lasted three-quarters of an hour.

Seven, with half-dram doses, showed no temporary exaltation of temperature; but in all a fall averaging $\cdot 4$ Fah. was registered.

This took place from three-quarters of an hour to one hour and three-quarters, and continued an average of thirty minutes.

Five with one-dram doses: One in one hour and a-quarter rose $\cdot 4$ Fah., and another in half-an-hour $\cdot 2$ Fah. No measurable increase was observed in the other three. In one and a-half to two and a-quarter hours a decrease in all took place, averaging $\cdot 5\frac{1}{2}$, remaining at the lowest point for thirty-five minutes.

Three with two-dram doses: A rise of $\cdot 4$ Fah. and $\cdot 2$ Fah. was registered in two, whilst in the third no effect was produced, but in one and a-half to two and three-quarter hours a decrease in all occurred of $\cdot 5$ Fah., and continued an average of thirty minutes.

Three with three-dram doses: An immediate rise followed in two of $\cdot 2$ and $\cdot 3$ Fah.; in the other no rise was observed. The total reduction which followed showed an average of $\cdot 8$ Fah., remaining at the lowest point for forty-five minutes.

Seven with four-dram doses: A measurable rise in four took place of $\cdot 6$, $\cdot 4$, $\cdot 2$, and $\cdot 5$ Fah.; in the rest no rise. In one and a-half to two and a-quarter hours every one was reduced on an average $\cdot 7$ Fah., the reduction continuing for half-an-hour.

One with six drams showed an immediate rise of $\cdot 2$ Fah. in fifteen minutes, which was followed by a gradual decline, reaching in three hours to 1° Fah.

Moderate Drinkers:—

Six with one, two, three, four, and six drams respectively. One showed an immediate rise of $\cdot 1$ Fah. In one and a-half to two hours all had declined to an average of 1° Fah.

The temperature was taken every fifteen minutes, under, as nearly as possible, the same conditions as to temperature of room, time of day, and condition of stomach as to food. In speaking of the fall taking place in a given time, I mean that the lowest point was registered in that period, remaining at that point for the average time stated; this was succeeded by a rise towards the starting-point, although the majority, whilst under observation, did not reach that point. In two or three the rise was rapid, and went beyond this. Allow me to call your attention to tracing No. 9. In this experiment one dram was given every hour. It is curious to observe, at each recurring period, the temperature—apparently stationary, or showing a tendency to rise—was immediately checked, and further depressed. This confirms the statement of Dr. Felton, to which I have alluded, who observed the same in rabbits.

The degree of body-heat registered by the thermometer, being the expression of the result of a number of processes going on in

the organism, cannot be falsified; therefore any marked and regular decrease, such as I have indicated, must result from disturbance. That being so, it is important to determine the ultimate effect on the system of the disturbing agent. That pure ethylic alcohol, even in minute doses, does reduce temperature is certain. My experience leads me to doubt the conclusion arrived at by some investigators—that the system becomes so accustomed to its presence, even in moderate drinkers, as to negative the tendency to depression of temperature on its administration, seeing that in all my experiments except one on those who were in the daily habit of taking alcoholic drinks, there was a decided reduction.

The exaltation of temperature observed in some cases, immediately preceding the reduction, has^r been alleged to be due to the action of the spirit on the blood-vessels of the mouth. In my opinion this is not a sufficient explanation, seeing that in my experiments the alcohol was administered through a glass tube, and the mouth rinsed with water at 90° Fah. during the fifteen minutes which elapsed from taking the dose and the first thermometric observation. I incline to the opinion that such rise, when it occurs, is due to a quicker perception, in some than others, of the presence of a disturbing agent.

On the actual causes of the decrease there exists great diversity of opinion amongst those who have given any thought to the question. Perhaps the most generally received opinion is, that after the introduction of alcohol into the system the CO_2 in the expired air is diminished, and the quantity of urea considerably lessened; therefore, as these are the final products of the oxidation of nitrogenous substances in the organism, and the quantities of each indicate the amount of oxidizing processes in general in the system, or the intensity of the tissue changes, so a diminution of these secretions shows a diminution of tissue change. If alcohol thus acts upon tissue metamorphosis, the reduction of temperature would be a necessary consequence, since a diminution of the oxidation processes must be accompanied with a reduction of the heat they produce. It is also suggested that heat is lost by the skin, the great regulator of the temperature. Any action of the vaso-motor mechanism which, by causing dilatation of the cutaneous vascular areas, leading to a larger flow of blood through the skin, must, necessarily, by conduction, radiation, and evaporation, reduce the body heat.

Thermometry reveals to us the very narrow limits existing between health and disease; that upon an equable temperament depends the enjoyment of mental and physical vigour. Therefore, any agent having a constant tendency to lower the temperature, and so depress vital power, cannot be persistently indulged in

without a tendency—imperceptible it may be—to engender disease of body and mind.

The general conclusions which I draw from my experiments are as follows :—

1. That a reduction of temperature invariably follows the administration of *ethylic* alcohol, sometimes preceded by a slight rise.

2. That small doses reduce the temperature. Ten and twenty minims produced a measurable effect, whilst half-dram doses cause an average fall of .5 Fah.

3. That the fall sets in from fifteen to twenty minutes after the alcohol is taken.

4. That the reduction lasts a variable time—say from forty-five to sixty minutes.

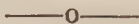
5. That the variations are not dependent on the state of the pulse.

6. That of repeated doses each has a depressing influence.

7. That the reduction from small doses was observed alike in total abstainers and moderate drinkers.



Proceedings of the British Medical Temperance Association.



DECLARATION SENT TO THE INTERNATIONAL TEMPERANCE CONGRESS AT BRUSSELS, AUGUST, 1880.

WE are deputed by the Council of the British Medical Temperance Association to convey to the International Temperance Congress some declarations of our Association on the question of Total Abstinence.

Our Association is composed entirely of medical men living in the United Kingdom, most of whom are actually engaged in the practice of medicine and surgery.

All the members of the Association are total abstainers from the use of alcoholic beverages; there are at the same time no laws of the Association which prevent members from prescribing alcoholic drinks for the sick who

are under their professional care. As a rule members rarely prescribe alcohol medicinally, some never prescribe it at all; others (as the President) only prescribe it, when they think it is required, in the form of pure ethylic alcohol in systematic doses.

The experience of the Society generally is that practice, medical and surgical, is rendered more effective and useful by these rules of abstinence. They find no difficulty in carrying out their principles either in public or private practice. As the majority of them, two hundred and thirty-seven in number, are largely engaged in professional work, the fact as to their

mode of practice is, it is hoped, encouraging as an example which may be largely followed.

At first it was felt by many that to treat disease without the use of alcoholic stimulants was to accept a risk which involved very great responsibility. In truth, as the experience of abstinence has widened, and as the other side of the question, the abstaining side, has come under observation, the sense of responsibility has been reversed, and now the difficulty seems to be to determine when alcohol ought to be permitted.

Up to the present time we have not been able to collect any statistics of comparison between our own practice and that of other physicians and surgeons who prescribe alcoholic drinks largely; but many of us can compare the results of our present practice with those which attended our practice when we were accustomed to administer such drinks very generally, and we believe that the results we now witness are better than they were before.

We are unanimous, therefore, in concluding that the present general mode of practice is too indiscriminate, and that all avoidable prescription of alcoholic beverages ought to be in every possible way discouraged.

Passing from the particular art of prescribing alcohol to our observation of the action of alcohol on persons generally, that is to say to its employment as a beverage, we are led to the following conclusions:—

That alcohol cannot in any sense be considered as a necessity for the maintenance of healthy life.

That it is not a food in any true and practical sense of that term.

That labour of the severest kind, mental and bodily, can be carried on without it, and that the steadiest and best work is best done without it.

Many of us have under our charge numbers of working men who are engaged in various employments, and who are associated in clubs for mutual benefit and assurance. Our experience respecting these is that such members, being divided into two classes—those who abstain and those who do

not abstain from intoxicating drinks—show a better health among the abstaining class, a greater power of endurance, a longer life, and a better capability of resisting disease and the results of accident.

These general observations of ours are supported in the most remarkable degree by the statistical facts which have been collected in certain of the public institutions of our country. Among such facts the following is of extreme importance:—

The United Kingdom Temperance and General Provident Institution is a Life Assurance Office which insures members in two sections, one in which all the members are total abstainers; in the other moderate drinkers, all intemperate persons being, of course, excluded. The two sections are exactly alike in every other respect, about 20,000 lives being insured in the General Section, and 10,000 in the Temperance Section. Returns of the expected and actual claims in these sections have, we believe, been presented to the Congress up to the year 1877: adding now the years 1878 and 1879 we find that during the years 1866 to 1879 inclusive, in the General Section 3,450 claims were expected according to the tables of mortality, and 3,444 were actually made. In the Temperance Section, according to the same tables, 2,002 deaths were expected, but only 1,433 took place. That is to say, the deaths among the abstainers were 29 per cent. less than among the moderate drinkers. The quinquennial bonuses in the Temperance Section have been 17½ per cent. greater than those in the General Section.

That a large mortality follows the general use of wines and other intoxicating drinks containing ethylic alcohol. Observations we have made in our own circle of practice bring before us yearly evidence of this fact, a fact which is confirmed by the universal experience, we may say, of the medical profession of the British islands.

It has been computed by the President that the mortality from the per-

sonal use of alcoholic drinks in England and Wales could not be put down at less, directly and indirectly, than 50,000 *per annum*. Recently one of our fellow-societies, not abstaining, namely, the Harveian Society of London, has published the following facts. Returns were collected from several members of the Society, practising chiefly among the middle classes in London, of the extent of which alcohol acted as a cause of death, in the cases whose death certificates they had filled up. Out of 1,615 deaths of adults, so recorded, 188 (or 11·64 per cent.) were partially, and 74 (or 4·58 per cent.) were wholly due to alcohol; making altogether 16·22 per cent.

We are of opinion that nearly the whole of the evils thus produced are traceable to the action of ethylic alcohol as it is presented in wines, beers, and spirits. We do not deny that occasional injuries result from adulterations and from admixtures

of the higher alcohols; and we deem it probable that the morbid condition of the body resulting in delirium tremens, is more readily produced by the heavier alcohols, butylic and amylic, than by the lighter ethylic. But, taking it all in all, the evidence is sufficiently clear to our minds that the agent which produces the steady course of alcoholic disease, and the high mortality due to alcohol, is that known as ethylic alcohol.

Under the impression that a general expression of opinion would be expected from us we have added these latter observations. We would conclude by repeating that our existence as a society of scientific men is based on the circumstance that we are members of the profession of medicine who ourselves practice total abstinence, and that our unity of habit in this respect is that which has led us to combine for the interchange of experience and observation.

(Signed),

B. W. RICHARDSON, M.D., M.A., LL.D., F.R.S., *President*.

J. J. RIDGE, M.D., B.S., B.A., B.Sc. Lond., *Honorary Secretary*.



THE SUMMER QUARTERLY MEETING.

The Quarterly General Meeting of the British Medical Temperance Association was held in the rooms of the Medical Society of London on Tuesday, July 27. In the unavoidable absence of the President, Dr. Richardson, Dr. Norman Kerr was elected Chairman. A paper was then read by Dr. C. R. DRYSDALE, on "Acute and Chronic Alcoholic Poisoning," which is given entire in our present issue.

In the discussion which followed Dr. J. J. RIDGE expressed his appreciation of the very interesting and full description of the noxious influence of alcohol which had just been given. He stated his belief that imbecility in the child was sometimes due to a drunken condition of the parents, of which Dr. Drysdale had expressed some doubt. He pointed out that

fatty degeneration of tissues as a result of the use of alcohol was probably produced by several modes of action; first, the tissues which were formed under the influence of alcohol were likely to be less perfect, and hence more prone to degeneration; in the next place alcohol interfered with the due course of oxidation of tissue; and lastly, it checked the proper removal of waste matter. With regard to the prolonged lives of many hard drinkers to which Dr. Drysdale had alluded, he thought it arose chiefly from the fact that these people had large vital capacity of lungs, or extra secreting power of kidneys, so that they were more easily able to throw off the spirit, which would otherwise exert its special chemical influence.

Mr. PARAMORE spoke of the stunt-

ing influence of alcohol on children. Dr. S. Wilks at one time taught that it "consolidated growth," and used to order it freely for that purpose. He alluded to the deplorable way in which many eminent men still prescribe it even in large quantities, and when there have been previous habits of excess.

Dr. ARMITAGE referred to the long-lived excessive drinkers, and pointed out that this is precisely what is seen in the case of other drugs and noxious agents. It is seen in the case of lead that some are far more susceptible to its influence than others. It is seen in the case of tobacco. It is certain that excessive tobacco-smoking produces atrophy of the optic nerve and blindness, and yet many old smokers die with excellent sight. As to gout, he had had a good deal of experience of its treatment by absolute teetotalism. Although he was educated by Dr. Todd, and had seen the most stimulating form of treatment possible, he was perfectly satisfied that great harm was done by it. The old practice of giving small quantities of stimulants in frequently recurring and irregular gout was quite a mistake. He had no hesitation in saying that all those sufferers from gout—himself included—who became abstainers were better for it, and he had never seen any harm from it. He thought there was good reason to believe that the prevalence of gout depended very much upon climate; there was much immunity in France, but he did not think that be-

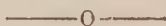
cause they could drink light wines in France and escape gout, therefore they could do so in England. There was even more gout among certain classes in Ireland, although wine was not more partaken of there, but rather more whisky, which was not credited with producing much gout. In dry climates, such as that of Egypt, gout was unknown, while in Germany there was little. Hence, climate probably had some influence.

Dr. SCATLIFF could corroborate the observations of Dr. Drysdale as to most of the diseases which he had enumerated as having been caused by alcohol. He had seen many cases of alcoholic phthisis, and also of gout.

Dr. POOLE spoke of the difficulty of medical men in calling in consultants, who very often ordered alcohol in opposition to the previous orders of the attendant. He thought they would do well in calling in physicians connected with their Association, who would be less thoughtless.

Dr. WILSON gave an illustration of the evil result of consultants' advice; and Dr. SCATLIFF said that both consultants and general practitioners would follow public opinion.

Dr. NORMAN KERR spoke on the subject of hereditary taint, and concluded by proposing a vote of thanks to Dr. Drysdale for his excellent paper, which was carried unanimously. A vote of thanks was then given to Dr. Kerr for presiding, and the meeting terminated.



SOCIAL GATHERING AT CAMBRIDGE.

The opportunity afforded by the meeting of the British Medical Association at Cambridge was employed by the Council of the British Medical Temperance Association to enable those of its members who were attending the meeting to become acquainted with one another, coming, as they did, from all parts of the kingdom. It was accordingly ar-

ranged that the members should lunch together in the Lion Hotel, on Wednesday, August 11, at one o'clock. At that hour the following fourteen members met together:—S. S. Alford, Esq., London; Dr. W. Carter, Liverpool; F. J. Clarke, Esq., Luton; Dr. Edmunds, London; Dr. Holdsworth, Wakefield; Dr. Eyton Jones, Wrexham; Dr. Norman Kerr, London;

Dr. Ridge, Enfield; Dr. Royds, Reading; Dr. Scatliff, London; Dr. Stewart, Clifton; Dr. Thompson, J.P., Bideford; F. Vacher, Esq., Birkenhead; and Dr. Vale, Bidford. There were also present, as visitors, Dr. Beard, of America, and Professor Mayor, of Cambridge. Dr. Thompson, J.P., presided at the table, and towards the conclusion of the lunch said a few words of congratulation on the improving condition of the minds of the medical profession in relation to alcoholic drinks. The honorary secretary, Dr. Ridge, then stated briefly the papers which were down for reading in the various sections of the meeting, which had reference to the alcohol question. After a few words from Drs. Stewart, Kerr, and

Alford, and a vote of thanks to the chairman, the members dispersed to attend the sections. It need hardly be said that no alcoholic beverages were employed on this occasion, but besides the usual temperance beverages, a new kind made its first appearance in public, called hede-ozone, manufactured by Messrs. Packham & Co., of Croydon. It is, says a medical correspondent, a tonic, effervescing drink, of a nature similar to that of zoedone, but of a somewhat different flavour. It was highly approved of by the critical medical connoisseurs, and will doubtless fill a distinct place in the large army of substitutes now at command to take the place of intoxicating liquors.



NEW MEMBERS.

Dr. Evan Evans	.	.	.	.	Beaumaris.
Dr. R. Martin	.	.	.	.	Manchester.
Dr. O. R. Prankerd	.	.	.	.	London.
Dr. E. B. Roche.	.	.	.	.	Norwich.
J. Shaw, Esq.	.	.	.	.	London.
F. W. Sutton, Esq.	.	.	.	.	Reading.
Surgeon-Major Whitla	Sandgate.



NEW ASSOCIATE.

A. Howell, Esq.	.	.	.	London Hospital.
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NOTICE.

The next Quarterly General Meeting will be held in the Rooms of the Medical Society of London, Chandos Street, Cavendish Square, London, on Tuesday, November 16, 1880, at four p.m.

J. JAMES RIDGE, M.D., *Hon. Sec.*



Miscellaneous Communications.

THE BRITISH MEDICAL ASSOCIATION AT CAMBRIDGE.

THE Annual Meeting of this great body of medical men was held at Cambridge in the second week of August. Various phases of the Temperance question received considerable prominence, and awakened unusual interest.

WINE AT THE ANNUAL DINNERS.

At the first general meeting of the Association, on Monday evening, 9th August, Dr. Norman Kerr, taking advantage of an alteration which was being made in the regulations for the conduct of the annual meetings of the Association, had given notice that he intended to move an addition to No. 3, to the effect that the price of the dinner-ticket should not include a charge for intoxicating drinks.

Mr. BARROW, to whom was entrusted the task of moving the adoption of the new regulations, commenting on the proposed addition by Dr. Kerr, said he presumed this stand was taken on the temperance question. Now round the dinner-table they might all adopt Local Option if they chose, but he thought there would be no difference about this, that the sociability of the meeting depended very much upon each gentleman having placed before him those potations of which he might be inclined to partake. If Dr. Kerr preferred to drink water, let him do so, but let those who preferred wine, drink wine, but with temperance. Let the provision be put on the tables at a fair price, and let the price be a guinea.

Dr. NORMAN KERR then rose and moved his amendment. He could only say, in reply to the observations of the last speaker, that "Thrice armed is he that hath his quarrel just." He pleaded only for justice. This movement had nothing to do with

the temperance or total abstinence question; it was simply an attempt to redress an already existing wrong. There were some members of this Association, and he was not ashamed that he was one of them, feeble and humble though he might be, who felt that following the bent of their most cherished convictions, they could take no part in the social meeting of Thursday night, because they felt that if they paid for any intoxicating liquors, which, under the present *régime* they were compelled to do, they were assuming a part and a responsibility in the drinking system of the country, by which so much disease and crime and disorder were produced. They might be right in this, or they might be wrong, that was not the question; but they could not go to any dinner and pay for intoxicating liquors without violating their convictions. Was it right, was it rational, was it reasonable, was it just for an educated and thinking association to exclude men whose actions and whose personal habits showed that they believed their convictions? Every member of the Association whom he had consulted had expressed an opinion favourable to this change. He did not plead for mercy or for compassion, he simply asked them to redress a wrong; and in moving his resolution, he appealed to them in the interests of fairness and equity to agree to it. He asked for nothing that would detract from the honour and the dignity of this Association, but he asked them to adopt a very slight, simple and fair measure of justice, which he thought would add to the dignity of the Association, and enhance its influence for good with their professional brethren throughout the world, with their patients, and with the great body of the general community.

Professor McNAUGHTON JONES said

he had great pleasure in seconding the amendment, and in doing so not as an abstainer, but as a non-abstainer. He might say that Dr. Norman Kerr communicated with him last year in Cork on this subject, and he recognised the difficulties in the way of this change, which difficulties embraced the only objection which could be raised to this proposition. He conceived that no member of the Association could deny that it was a mere matter of justice that no one should be compelled to pay for that which he had no intention to consume; nor did he conceive it to be right that men who did not intend to partake of certain refreshments at the annual dinner should provide for those who did. The only difficulty would be with the local reception committee, and more particularly with the section of them that had the control of the dinner. He, however, had carefully gone into the matter, and was satisfied that there was no real difficulty even in this respect. Hence he had great pleasure in seconding Dr. Kerr's proposal as a mere matter and principle of justice.

Dr. FAWCETT, of Cambridge, supported the resolution on the grounds of consistency and propriety. He had more than once urged the committee to adopt this plan, that they should be satisfied with having tickets for a dinner without the compulsion of paying for wine that was not wanted. He was sure it was a principle they ought to act upon.

A MEMBER said that if teetotalers objected to pay for drink they had better stay away, and the company would be better without them.

Dr. WIGG said the equity of the proposition was apparent to all. He would have two dinner tickets, one including and the other excluding alcoholic beverages. It was a matter of no moment to discuss. The issue simply was whether the Association was prepared to do the equitable thing. He had therefore great pleasure in proposing an amendment that there should be two dinner-tickets as before stated. At the same time he was not an abstainer, but believed in taking everything in moderation.

Dr. STEWART, of Clifton, seconded this amendment, and distinctly denied that it would lessen the sociability of Thursday's meeting, as had been predicted by the first speaker (Mr. Barrow). Such a reproach temperance men did not deserve, and it was wholly unjust. This system prevailed at their Bath and Bristol branches, and he defied them to find more happy gatherings anywhere, and certainly they were never asked there to contribute to the potations of those around them. It was not a matter of temptation or the reverse, but a matter of equity. He was sure this meeting would pass so just a resolution by a large majority. So far from its being a difficulty with the local committee, he believed they would hail it with satisfaction.

Dr. KERR said he was quite prepared to leave the whole matter, and especially the particular mode of carrying it out, to the committee, in whom and in whose president he had perfect confidence. Their sense of justice and fairness would ensure the accomplishment of his object. Hitherto they had had no power in the matter. His amendment might be considered as a strong recommendation to the committee of council.

Dr. RIDGE (Enfield) said he would only remark that it was proposed now to adopt in this general meeting of the Association a practice which was very frequent in the various branches in different parts of the country, and as no difficulty whatever, he believed, had ever arisen at those meetings, on what ground could it now be supposed that it was likely to cause any difficulty with the parent body? Personally he could not conscientiously take part in any dinner at which he should have to provide or pay for intoxicating liquors.

Dr. BACON (Cambridge) assuming that it was supposed that Dr. Kerr considered the local committee were not acting in a just manner, denied this supposed allegation.

Mr. WATKIN WILLIAMS, of Birmingham, said that of late a feeling against the old system had been rising—not quite a total abstinence feeling, but that many did not take anything

like the quantity which was formerly consumed, and the guinea, in reality, was supposed to pay for the three-bottle men. A great many took but very little, and on every ground it was unreasonable that the old system should be maintained. Dr. Kerr did not intend his resolution to apply to this meeting, but to be an instruction to the Council for future meetings. Everything must have a beginning, and if the resolution were carried the Council would only have to do what was already being done throughout the country. Let there be tickets for wine, and those who liked take as much as they pleased and—pay for it.

Dr. B. FOSTER, of Birmingham, and Dr. OAKLEY, of Halifax, supported Dr. Kerr.

Dr. ALFRED CARPENTER approved of Dr. Kerr's proposal, and suggested that the amendment should be withdrawn, the original regulations be passed, and then that Dr. Kerr should move his resolution as a substantive motion. If this was carried, as he presumed from the feeling expressed by the meeting it would be, the responsibility would then fall on the Committee of Council, who, if they failed to carry out the instruction he doubted not would now be given, could be called to account at the ensuing annual general meeting.

Dr. HADDEN said, if there was any resolution which prevented some of their brethren uniting with them, let them rescind that resolution. What was right in the branches could not be wrong in the parent society.

Dr. NORMAN KERR then moved the resolution as follows:—"That in the opinion of this meeting the price of the dinner-ticket should not include a charge for wine, and the Committee and Council are requested to arrange for this in future."

This having been formally seconded by Professor McNAUGHTON JONES, was carried unanimously amidst cheers.

INSANITY AND INTEMPERANCE.

On Wednesday 11th August, the discussion of the influence of alcohol

in the causation of insanity was opened in the Psychological Section by Dr. G. M. Bacon, M.A., superintendent of the Cambridgeshire County Asylum. Dr. H. B. Sutherland read a paper on "Cases of Alcoholic Insanity in Private Practice," and Dr. Beach followed with a paper on the "Intemperance of Parents a Predisposing Cause of Imbecility in Children." Two of these papers are given in full in our present issue under their respective headings. The other will appear in our next publication.

The debate on this subject, which extended over two sittings of the Section, was opened by

Dr. HACK TUKE, who said it was only by such careful examinations as had been put forth in the papers that they could arrive at the truth. He came to the conclusion that there were 12 or 13 per cent. of cases of insanity due to drink. The superintendent at Bodmin Asylum told him there was about 5 per cent. only, and he connected it with the extremely sober habits of the population of Cornwall. In Birmingham there was a different set of habits, which accounted for the marked difference between that town and the county of Cornwall. He entirely disclaimed any such statement as that 50 per cent. of insanity was due to intemperance, but at the same time he would be prepared to expect that a very considerable number of the insane in our asylums owed their condition to intemperate habits. There was every reason to suppose that drink would produce insanity in some considerable number of cases, and it was only by such an analysis as had been made in the papers read to-day that they would ever arrive at the true proportion. Dr. Dagonet, of Paris, said that out of a large number of cases that he inquired into, in 300 drink was *the* cause of insanity. M. Lunier, one of the Inspectors of Lunacy in Paris, had also published statistics, which showed that insanity was less rife when the natural wines of the country were drunk than when they gave place to stronger liquors.

Dr. SHUTTLEWORTH (speaking of

the Royal Albert Asylum at Manchester) said that they could only make out that there were 16 per cent. of the patients who were certainly intemperate, and who were the progenitors of idiot children amongst 300 cases which he examined, and that there were only nineteen in which parental intemperance could be said to be the direct or only ascertained cause. That made about 5 per cent. to place against the 31 per cent. of Dr. Beach's paper. It was necessary to inquire why this great difference should exist. In the first place, the patients in his (Dr. Beach's) asylum belonged to the pauper class of the Metropolitan district, amongst whom drink was more common than the classes above them. The parents, too, were very apt to assign drunkenness as a cause, and when no other cause was obvious, they rather rushed to that conclusion. His cases were not congenital or epileptic, and, in fact, he was not able to add materially to the percentage of intemperance before stated from facts he had been able to trace. With regard to the American statistics, they were rightly considered as exaggerated, and it was the statistics from America that were commonly quoted. He examined carefully the origin of the tables on which those statistics were based, and he was justified in saying that it was unfair to attribute so large, or nearly so large, a percentage to intemperance alone. More recent statistics from America seem to have been collected with greater care. Out of 100 cases in which the family history had been traced as far as the grandparents, thirty-eight had furnished the records of a drunken ancestry. He thought it very necessary to trace the habits back for two generations.

Dr. JAMES EDMUNDS (London) said they were much indebted to the authors of the papers for the valuable data, and the very reasonable conclusions which had been based upon those data. He thought it ought to be clearly understood that amongst those who were total abstainers there were two distinct sections—one that abstained from alcohol from a religious

standpoint, and that believed that the taking of a glass of wine was always a sin, and that might be termed "the moral enthusiast section;" and the other the men who, after carefully looking into the facts, came to the conclusion that they could work better, and live longer, and be happier without alcohol than with it, and the position of such a class was entirely justified in view of the large amount of sickness and misery which grew out of the ordinary use of alcoholic beverages. It was this last section with which alone he had any sympathy, and for the arguments and wild statements advanced by mere enthusiasts he was not responsible. Nothing could be more difficult than any attempt to disentangle the facts connected with our drinking habits and the existence of insanity. Insanity seemed to come out as the result of two directly opposite conditions of life, the one condition which existed among the Society of Friends, in which the weaklier members were taken so much care of that they survived to reproduce weakly and neurotic members, who might be said almost in the next generation to go on adulterating the natural stock, and out of such a condition a large number of insane persons would necessarily occur, inasmuch as under ruder conditions of life they would have been killed out in the struggle for existence. Thus it was that among the Society of Friends, where intemperance was singularly uncommon, there was so large a proportion of insanity. On the other hand, in a place like Birmingham, where human beings grew up as if they were tagged to a machine, and where the mothers left their children to be nursed in *crèches*, at a penny or so per diem—these children grew up with stunted and imperfect constitutions, and among them a large number of insane cases would be developed. Now, in the conditions which existed at Birmingham, the temptations to drink were also very great, and therefore insanity became associated with drink, although drink was really rather a premonitory symptom and mental

weakness than a direct cause of mental degradation. In Cornwall, again, where only $3\frac{1}{2}$ per cent. of insanity was set down to drunkenness, they had a hardworking and hardy community, who died by violence rather than by slow decay, and who had over two or three generations been completely permeated by the religious influences of Methodism, and of whom a large number were total abstainers. Without attempting to disentangle the exact relationship of drunkenness and insanity as cause and effect in these various communities, there were some things on which everyone present would be agreed. Firstly, they knew that men of strong constitution, and fairly organised all round, drank considerably and continuously to an advanced age without apparent injury; but, in point of fact, they underwent a slow degeneration of tissues, and they certainly did accumulate masses of spongy tissue about them, which had been referred to by Dr. Browne as indicating not the highest type of human development. And when alcohol was taken in somewhat large quantity they knew, first, that it produced disease of the liver as the organ through which the alcohol first soaked in entering the circulation; secondly, that it produced disease of the kidneys and of the other excretory organs; thirdly, that it produced general degeneration of tissue, such as atheroma and fatty change in the blood-vessels and other vessels. Out of these conditions come rupture of the blood-vessels, clotting in the arteries, and, as a direct consequence, paralysis, apoplexy, and other neuroses. They also knew that in acuter forms of alcoholic poisoning they could trace epilepsy in consequence of urea accumulating in the blood. Then they had the fact stated by Dr. Tuke that in the Friends' Retreat at York he had almost never seen a case of general paralysis, and that the effects of drinking were extremely rare in the patients sent to that institution. Now it was reasonable to suppose that where the brain tissue itself was much exposed to causes which produced degeneration,

that alcohol, which in the rest of the body was known to be so powerful a degrading agent, would also produce lesions, out of which would come purely mental defects analogous to those which produced the phenomena of paralysis, disease of the kidney, disease of the heart, and disease of the blood-vessels; and in this way he was distinctly of opinion that the influence of alcohol brought about those cases which Dr. Crichton Browne had described as neurotic into the circle of crazy or insane cases. It would be interesting to have statistics from those gentlemen whose practice lay in idiot asylums as to whether idiocy seemed to be largely connected with the free use of alcoholic beverages by the mother during the period of gestation, delivery, and nursing. It was well known that in some parts of the country women were in the habit of making themselves drunk with alcohol at the time of delivery, and the question whether the use of chloroform damaged the infant brain was also one worthy of consideration.

Dr. SEATON said he had been thirty-six years engaged in the practice of lunacy, but his experience was entirely confined to private patients. He had been hoping that some one would tell him how the use of alcoholic drinks was able to produce insanity, because he had never yet found any reasonable ground assigned for it. He had met with many cases where drunkenness was associated with insanity, but he had no hesitation in saying that he never met with a case in his life (where he was able to trace the history of the patient) where he was not able to detect the existence of insanity before the drunkenness, and that it was the drunkenness which made the insanity known to the public. If the patient had been kept from stimulants, perhaps the public would not have known of the insanity, although the relatives would. At the same time he acknowledged having many a time lent himself to the assertion of drunkenness as a cause of insanity. It was convenient in good society to be able

to assign a special reason why they should be insane that should not be prejudicial to the relatives. He had been thinking over the cases of general paralysis, and could not find where there was the slightest pretence of suggesting that intoxicants were in any way the cause. The temperance men in waging their holy war had seemed to feel that in the matter of lunacy statistics, as in other things, they were perfectly justified in using any materials or weapons they could lay hands on, and he supposed it was in this way that intoxicants had been assigned as a cause of insanity.

Dr. LANGDON DOWN said that the influence of intemperance upon insanity was a very important question, and surrounded with difficulty in any attempt to arrive at the exact truth. The discrepancy between the statistics of Dr. Shuttleworth and of Dr. Beach was probably due to each of them pursuing their researches in different grades of society. He thought Dr. Beach's statistics defective in the method of classification adopted. There was a class of cases where children were born with a proclivity to mental breakdown, which commonly occurred at first dentition, second dentition, and puberty. About 15 per cent. at Earlswood seemed to be a fair charge to make to the factor of intemperance. In another institution, in which he had seen 250 patients, intemperance could not be placed as a factor in more than 2 per cent. of the cases. Thus, taking the middle stratum, the percentage was 15 per cent., and in the higher class only 2 per cent., whereas Dr. Fletcher Beach came to a class where intemperance was a general habit, and there he got an amount of intemperance due to insanity which made it an important factor. There was no doubt that idiocy was the product of intemperance. He had known four children where parental intemperance was most distinctly the cause of their idiocy. He had found also that there was a kind of idiocy which was the outcome of acute intemperance at the time of procreation. He had no doubt that procreation under the in-

fluence of intemperance was a strong cause of idiocy.

Dr. HARRINGTON TUKE said, we were very liable to fall into the mistake of generalising upon this question. We must consider. Is not drunkenness a cause of destitution, of severe moral and physical suffering, and are not these the factors that make up insanity? He confessed that in the upper classes, during a long experience, he had met with very few cases which he could trace absolutely to the use of intoxicating liquors. When met with, these cases recovered very rapidly. With the lower classes, where intoxication was followed by absolute ruin, there was another factor which ought not to be omitted. Until they could show the pathological changes in the brain as they could in the liver, they should be careful what they put forth. Then a new field of inquiry would be in the various countries where different forms of drink were consumed, and the relations of insanity thereto. General paralysis should be taken out of the diseases caused by alcohol. He never saw such a case in the upper classes caused by excessive drinking. He did not think intoxication merely as a form of poisoning could be taken as a cause of insanity.

Dr. RIDGE thought that Lord Shaftesbury, and those gentlemen who had made statements similar to his about the relation of intemperance to insanity, had been somewhat misrepresented. They did not mean to say that alcohol alone had been the pure cause of the disease, but that, directly or indirectly, it acted so as to bring the result about, and that it was a cause which above all others was preventable. It was a cause entirely outside the human system, and which could be wholly got rid of, and therefore one which they might well devote their energies to put an end to.

Dr. BRUSHFIELD pointed out how extreme were the statements on either side. Alcohol was denied by some medical men as a factor in the production of insanity, and described as a powerful cause of it by others. Dr. Seaton said that no case of insanity

was produced by intemperance, but his (Dr. Brushfield's) experience was totally against that.

Dr. BATEMAN drew attention to the statistics of Dr. Curling, of America, and his conclusions were diametrically opposed to those of Dr. Seaton. Having gone very carefully into the causation of this disease in one hundred cases, he had traced thirty-two, either directly or indirectly, to be due to the intemperance of the parents.

Dr. EASTWOOD (Darlington) said he had come to the conclusion that Lord Shaftesbury's popularly adopted statement was highly exaggerated, that 50 per cent. of the insanity was caused by intemperance. At the same time he could not confirm the statement of Dr. Seaton, for if alcohol would produce one form of nervous disease why should it not produce another? They could not shut out alcohol as a cause in the production of insanity. With regard to general paralysis, his own experience was that it was not produced by alcohol, or very rarely indeed. There were some cases in which insanity could only be attributed to intemperance.

Dr. TURNBULL said he had seen a good many imbecile children without being able in one instance to detect that they were the children of intemperate parents.

Dr. J. CRICHTON BROWNE (President of the Section) remarked that this discussion had been conducted with great temperance and forbearance on a subject that sometimes excited a good deal of feeling. This was a most momentous and a most important question, and none could shut their eyes to the evils that drunkenness was creating in the community. The papers read were honest and genuine endeavours to arrive at the actual facts. Now the profession could not lend itself to extreme statements on the one side or on the other. They could not, for example, adopt the statement of Dr. Seaton, nor could they that which Dr. Mortimer Granville published sometime ago in the *Lancet*, to the effect that alcohol could not produce any nervous disease. Now they had three kinds of actions

on the part of alcohol to remember, its direct action upon the nervous system, its contributory action, and its remote action. In its direct action he must include all its immediate toxic effects. It undoubtedly acted upon the nervous system. Let any man or woman, however robust in health, be saturated with alcohol sufficiently long, and he would pledge his professional reputation that he or she would fall into delirium tremens. Go on with this and there would be produced mania. Produce delirium tremens again and again, and the effect instead of being transient would be continuous. They would get a condition of continuous excitement and irritation of the brain. If that condition were produced frequently they would have developed monomania, and a painful and lasting symptom of suspicion. If the saturation were again carried on they would get alcoholic wasting of the brain and loss of power in all the mental faculties, with other symptoms. Then there was still further produced alcoholic dementia. That these were the direct effects of alcohol, taken as described, there could be no mistake. But beyond the direct effects there were contributory effects. Where alcohol had not produced delirium tremens if there was a predisposition to disease of the nervous system, this might break down and melancholia be the result. Alcohol was not largely responsible for the morbid results, but it was an important factor, and the result would not have occurred if the alcohol had not been there. It would not do to say that these cases were not due to the alcohol, for they were. In the first case alcohol was the full and complete cause, in the second it was the contributory cause, and in the third it was the indirect cause. If a man got drunk, knocked his neighbour down, and produced a condition of the brain leading to mental disorder, surely alcohol had something to do with the cause. If a man who ought to spend his wages upon his home spent them on drink and left things in such a state that melancholia was produced in the wife, surely alcohol must be

credited with some share of the blame. Alcohol was at work doing evil in a variety of ways that could not be reduced to actual statistics. He did not think that men who had made these statements about insanity and intemperance were such tyros as not to know about these things. Personally he was inclined to adopt the statistics of the Commissioners in Lunacy notwithstanding all the discredit that had been thrown upon them. Let his hearers bear in mind that there were 30 per cent. of the cases in which no cause at all was known, and in a certain number of them alcohol was sure to have been a factor. He had conducted two investigations as to the relationship of intemperance to insanity. One, many years ago, was conducted at the request of the late Archdeacon Sandford, when he went over 500 cases, watching every one of them himself, and making the statistics as carefully as he could possibly make them, and he arrived at the conclusion that the direct and contributory relations of alcohol to intemperance was represented by 15 per cent. He sent these statistics to Archdeacon Sandford, but he did not think they exactly suited him, for he entirely ignored them. At a later period he went over the same ground again, and was satisfied of his original correctness when he brought out the same result—15 per cent. Destitution was a cause of insanity; and that destitution, itself produced very often by intemperance, ought to be brought before the medical profession as a speciality. In two reports of asylums that had come before him this year, he had noticed the statement that drunkenness and alcoholic poisoning always increased throughout periods of prosperity. That was simply the reverse of the truth, and any man who made a statement of that kind had not gone into the question. In the years 1871 to 1873, the years of great commercial prosperity and very high wages, the deaths from every kind of alcoholic poisoning went steadily down. In those years the deaths from delirium tremens were 2,200, and in the three following years of distress and low wages they went

up to 3,300, showing that the period of high wages was not the period of drunkenness, but that when men were out of work, with time on their hands, they flew to alcohol for relief. At the same time they owed certain benefits to alcohol. There was no doubt that a dose of it occasionally saved a man from an attack of insanity. It tided him over periods of sorrow, distress, or anxiety, when, but for its timely aid, he might have broken down. They had yet to learn the effects of alcohol upon the highest class of nerves.

Mr. G. W. MOULD (Cheadle) said that in Manchester they had a large number of cases of general paralysis apparently attributable directly to alcoholic excess in both men and women. At Cheadle he had five distinct cases of general paralysis, and it was rarely they didn't admit two a year. He urged that they should seek enlarged powers under the Habitual Drunkards Act.

Dr. MARTIN said we heard yesterday of the high moral condition of Cornwall, where, according to Dr. Edmunds, teetotalism was more prevalent than in any other part of the country. He would contrast that with the county of Durham, where he believed that, owing to the large wages the miners and the iron-workers received, they had as a direct consequence the largest amount of drunkenness and brutality to be found in this country. He was not surprised to find, then, that the insanity caused by intemperance was 3·5 in Cornwall and 29·2 in Durham, the highest percentage in this country with the exception of Norwich. His reminiscences of Norwich were that it was the most drink-ridden place he ever visited, so that he should expect a large amount of insanity to be caused by intemperance there.

The CHAIRMAN said that although the percentage of insanity due to drunkenness was so low in Cornwall, the general percentage of insanity was only slightly less there. When you removed alcohol, apparently another kind of intoxicant took its place—religious excitement.

Dr. STEWART pointed out that these statistics did not deal with the whole question. He objected to the word dipsomania, which was not applicable to the class to whom it was commonly applied.

Dr. CHEVALLIER said he had not the same faith in statistics that was professed by many persons. It was difficult to say which came first, the intemperance or the insanity. The relieving officer should not determine the cause of insanity, but this ought to be left to the medical officer if we were to have reliable statistics. His experience was directly contrary to that of Dr. Seaton.

Dr. BACON, in replying, said that his views had not been invalidated by the discussion which had taken place upon his paper. Dr. Ridge seemed to think the insanity due to drunkenness was wholly preventable, and ought to be stamped out. He quite agreed with him in the desire, but while human nature remained as it is, drunkenness was not more preventable than anything else. The only lesson they derived from all that had taken place was that they ought to be more careful of the way in which they presented statements to the public. All they wanted was truth, whichever way it came out, and he could only trust that conscientious research would make the statistics of the future more reliable than those of the past.

Dr. SUTHERLAND also replied, and expressed his astonishment that Dr. Seaton could make the statement he had done in the face of the tables published by the Commissioners in Lunacy.

Dr. BEACH also replied, and the Section then proceeded to the consideration of the other business upon its agenda.

ALCOHOL AND THE DEATH-RATE.

Dr. NORMAN KERR, F.L.S., read a paper, in the Public Medicine Section,—Dr. Acland, F.R.S., presiding,—on “The Influence of Excess in Alcohol on the Death-rate.” He said he had been engaged for some years in collating the records of the

mortality from alcohol in his own and several medical friends' practices, and had presented the results of his inquiries to various learned bodies without, unhappily, any attempt on their part to impugn the accuracy of his estimate. He could not, after exhausting every effort to arrive at an approach to the truth, and after making deductions far beyond what the circumstances seemed to warrant, compute the total annual mortality from alcoholic excess at less than 120,000. Of this startling tale of preventable mortality, 79,500 persons met their fate from starvation, disease, accident, or violence arising from the indulgence of others, while the remaining 40,500 fell a prey to personal excess. It was of the latter direct mortality from personal drinking habits that, in a purely medical society, the present paper treated. Whether drinking far short of drunkenness added largely to the number of deaths in the country, Dr. Kerr did not then stop to consider. The scope of his theme extended no further than personal intemperance.

Other inquirers, since Dr. Kerr's estimate had been propounded, had ventured into the field, and these had computed the alcoholic fatality to be higher than he had felt warranted in doing. Dr. Morton, from the counterfoils of himself and nineteen medical friends, held that the annual deaths from personal intemperance in England and Wales were 39,287. This was equal to nearly 53,000 for the whole kingdom, though these returns included little more than half their due proportion of deaths in workhouses, and no deaths at all in hospitals and asylums. Dr. G. B. Longstaff, from an analysis of the Registrar-General's returns, could not put the alcoholic deaths lower than 30,000 or higher than 60,000. Dr. B. W. Richardson, so deservedly high an authority on hygiene, believed that the mortality from personal intemperance in England and Wales was 50,000 yearly, equivalent to more than 68,000 over Great Britain and Ireland. Dr. Lankester's estimate was a tenth of the whole, or 62,000. Dr. Hardwicke, coroner for

Middlesex, thought the real loss greater still. Dr. Kerr's estimate of 40,500 annual deaths from personal intemperance in alcohol was thus below that of others, and it was also considerably less than the result indicated by the returns, thus far, of the Harveian Society, in their full investigation. Dr. Farr, himself, had conceded, at Cheltenham, after a prolonged discussion on a paper by Dr. Kerr, that the annual mortality from alcohol might amount to from 30,000 to 40,000; and a host of coroners, medical officers of health and experienced practitioners, had testified to the moderation of Dr. Kerr's estimate.

The marked influence exercised by alcohol on the death-rate was strikingly exemplified in the mortality in the city of Glasgow, consequent on the reduction of the duties on ardent spirits. The reduction of these duties increased the deaths there from 3,690 in 1822, to 4,627 in 1823, and to 4,670 in 1824. The Registrar-General's return showed that in every class of disease save one there had been a steady increase in the number of deaths; but in Class III., or Local Diseases, there had been a steady increase up till the year 1876, when the consumption of alcohol began to fall off. Precisely in those diseases (such as of the brain, heart, lungs, liver, and kidneys) in which alcoholic excess told so heavily, did this increase take place. It was a significant fact, pointed out by the eminent statistician, Dr. Farr, in his annual letter to the Registrar-General in 1877, that gout was then twice as fatal as it had been fifteen years previously. How suggestive was the contrast between the proportion of violent deaths in England and Italy! In the former country, where there was so much insobriety, the deaths from violence amounted to 775 per 1,000,000. In the latter country, which was pre-eminent for its sobriety, these deaths were only as 240 per 1,000,000.

It was well known to medical men that the certificates of death compiled by the Registrar-General were no index of the true influence of alcoholic excess in the causation of death. They had the highest governmental autho-

rity for the position that medical practitioners were called upon, under the present system of death certification, to certify only the disease from which the patient died, and not the cause of the fatal ailment. Besides, it would be an invidious part for the family physician to play to state openly on the certificate that intemperance in alcohol had been a contributory, or the sole cause of the morbid symptoms ending in death. Under the present *régime* this would involve the proclamation to the world of the shame of many a secret inebriate, whose failing might not have been suspected by even the members of the same household. Let a confidential, concise medical history of the case be communicated to the Government officials for purposes of death only, and a tolerably accurate record might be kept of the influence of intemperance in the destruction of human life.

All the efforts hitherto made to discover the truth had been based upon the interpretation put by the mere recollection of practitioners on the counterfoils of past deaths. This was too uncertain a method. The only trustworthy plan appeared to Dr. Kerr to be to ask—say, 500 to 600 medical men in different typical localities to note the particulars of each death from alcohol and the proportion such deaths bore to their total deaths. The ratio thus obtained might be applied both to the whole number of practitioners and to the total deaths in the country.

Dr. Kerr concluded by confidently submitting that no more fitting case for decided action on the part of the British Medical Association could well be found than—(1) The collection of confidential returns of the true number of deaths from personal intemperance occurring in the practice of 500 to 600 medical men in various parts of the kingdom, and in every variety of practice; and (2) Agitation for an alteration in the present mode of certifying and registering deaths, whereby the State might learn the extent to which alcoholic excess influenced the death-rate, without the certifying physician being placed in the anomalous and

improper position of publishing to the world the faults and the frailties of the dead.

CONTROL OF HABITUAL DRUNKARDS.

At the concluding general meeting, held at the Senate House, on Friday, 13th August, under the presidency of Professor HUMPHRY, the question of habitual drunkards and their treatment was discussed at some length.

Dr. CARPENTER, the chairman of the Committee for promoting legislative restriction for habitual drunkards, read the following report of that committee, signed by himself, and Messrs. S. S. Alford, T. F. Blandford, C. Holthouse, J. Gray, and E. H. Vinen:—

“Your committee are unable to report any definite progress in the measures for restricting habitual drunkards. The Act which was passed last year affirms a principle and establishes a machinery by means of which it can be put into operation; but the liberty of the subject is so hedged round with conditions which impede the application of the Act to individual cases, that your committee are afraid it will greatly hinder its operations, whilst the bad times have prevented voluntary and charitable contributions towards a scheme which may satisfy the requirements of the Act, and yet meet with the approval of the patients themselves. Two private retreats are licensed under the new Act.

“On January 8th, your committee held a conference with the committee of the Society for Promoting Legislation for the Control and Cure of Habitual Drunkards, as the best course to be followed to give practical effect to the Act of last Session, when the following resolutions were passed:—

““That, in the opinion of the joint-committee, an effort should be made to establish an institute for the purpose of treating inebriates according to the provisions contained in the Habitual Drunkards Act, 1879.”

““That the proposed institution be

established by aid of voluntary contributions, and afterwards supported by payments from the patients.”

““That the name of the institution be the “Dalrymple Retreat for the Treatment of Inebriates under the Habitual Drunkards Act, 1879.””

““That the following gentlemen be a sub-committee to carry the foregoing resolutions into effect:—Dr. A. Carpenter, Mr. C. A. Govett, Dr. N. Kerr, and Mr. S. S. Alford, with power to add to their number.”

“Dr. Cameron, M.P., has since been added to this committee. Mr. S. S. Alford is acting as honorary secretary; all communications can be sent to him at 61, Haverstock Hill, N.W., London.

“About £800 is already promised towards the Dalrymple Retreat for Inebriates. It is hoped that an institution for the working and lower middle classes, when once started, may, by sufficient but small payments, be made self-supporting; especially as the Managing Committee will be strictly honorary; but the sub-committee do not feel justified in opening a Retreat until £2,000 is promised to start it and ensure its action for two years. The recent elections and bad times have been a serious obstacle to obtaining funds.

“Your committee, under these circumstances, ask for re-appointment.”

Dr. CARPENTER, in moving that the report be received and adopted, and the Committee re-appointed, said that the only thing gained by the Act of Parliament was the Parliamentary recognition of the principle for which the Association had been so long striving, for what Parliament had given with one hand it had taken away with the other. It was possible that the Committee might, as they suggested in the report, obtain the funds to establish a “home” for inebriates, and some result would follow; but not the extensive results which they had in bygone times looked for.

Dr. MORGAN seconded the motion, and said that the Legislature would see that more power was needed than was given at present.

Dr. FITZPATRICK (Liverpool) did not see why the profession should be called upon to assist in making abortive legislation practical, and he ridiculed the idea of the profession raising £2,000 to deal with the inebriates of the country.

Mr. S. S. ALFORD (London) explained that the only purpose of the Committee was to aid in the establishment of a home for inebriates, and not to deal with "the inebriates of the country." If a home were established and worked with the end of restoring to usefulness and to society the victims of this terrible vice, the practical character of the work would be seen. Magistrates would then be brought to assist the work by offering persons who were brought before them charged with frequent drunkenness with the choice of spending a time in an inebriate home or in prison. The late Parliament, which had given this imperfect piece of legislation, was in unlawful connection with the sale of drink; but the measure could be made to work. The sum of £2,000 was not expected from the profession, though something would be got towards it in the profession, and the effort would be followed by others throughout the country.

The report was adopted, and the Committee reappointed.

Dr. JOSEPH ROGERS (London) proposed a resolution on the report:

"That the support of the Association be requested, with the view of obtaining from the Legislature some provision whereby habitual drunkards who become chargeable to the rates

should be placed under such restraint as may lead to their being reclaimed."

The mover spoke from his experience, as having been the medical officer of two workhouses, and as having come face to face, as such, with a very large amount of drunkenness. He spoke of the class of people who were "in and out" of the workhouse, being brought in when their drunken habits had incapacitated them from remaining in the ranks of life; and then, when they were better, they discharged themselves, only to return after a time as bad as ever. Some of these people had continued this course for more than twenty years, and the guardians had no power to restrain them or to detain them; but as the ratepayers had to pay for the support of those persons who brought themselves into this condition, the power should be given to those who had to support them to restrain them from injuring themselves.

Mr. WICKHAM BARNES (London) seconded the motion.

Mr. S. S. ALFORD supported the motion.

Dr. ROYLE (Manchester) supported the motion, and hoped that the Committee would set their wits to work for suggestions whereby the present evils would be remedied.

The resolution was carried unanimously.

Dr. A. CARPENTER moved that Dr. Joseph Rogers be added to the Habitual Drunkards Committee.

This was seconded and adopted.

—O—

THE NATIONAL TEMPERANCE LEAGUE'S MEDICAL BREAKFAST.

For eleven years past the National Temperance League has taken advantage of the annual gatherings of the British Medical Association in the various English towns to which they have resorted to invite the members to breakfast, and subsequently to a con-

ference on the question of the responsibility of the profession in regard to the temperance movement. At nearly all these gatherings Mr. Samuel Bowly has presided, and on Thursday morning, 12th August, at Cambridge, he was found in his seventy-ninth year

performing the same hospitable office. Provision had been made for 150 medical gentlemen, and it was expected that 130 or 140 would have attended, but the actual number reached 200, being a larger attendance than has been experienced on former occasions of the kind, and in itself an indication of the progress of temperance thought and opinion amongst the members of the profession.

After breakfast Mr. BOWLY, who presided, observed that it was unnecessary for him to say how very heartily he welcomed the members of the British Medical Association upon this occasion. He had been a worker in the temperance cause for forty-five years, and when he thought of how the question was received in the early days he was deeply thankful to be surrounded by such an influential gathering as had assembled this morning. What the medical aspect of this question would ultimately become they were quite prepared to leave in the hands of the profession. They did not pretend to dictate to men of science what was the exact measure of alcohol that should be used in medicine, but they took this up as a social question, and as one of the most important of the day. It was unreasonable to expect that the great masses of the people, with their want of education and refinement, would give up drinking if they were not supported by the influence and example of educated and scientific people. Therefore he was exceedingly anxious to win the sympathy of the influential body of gentlemen he saw before him, and to them he appealed, not so much in their capacity of medical practitioners as in that of persons having the *entrée* into society. He was quite sure that if they could get the sympathy of the leaders of society they could get rid of the public-houses, and then they would not be long in getting an Act of Parliament to put down what remained, because public opinion would then support it. That public opinion they were endeavouring to create, but it was created by atoms. He believed these meetings had now been continued for eleven years, and

he could see a growth of opinion amongst gentlemen who were kind enough to come here, and he saw in them a powerful influence to operate upon society at large.

Mr. WILLIAM FOWLER, M.P. for Cambridge, said he felt that he could not contribute much to the deliberations of the meeting, because he was not a doctor. He was not a scientific man in the strict sense of the term, although he had always felt the deepest interest in scientific questions. He believed the questions under consideration this morning, briefly stated, were—How far can a man do without drink consistently with maintaining strong and vigorous health? and, Are these things necessary to the health of man? Now, he did not know that he should have accepted the invitation to be present this morning, were it not that he had had some experience in his own person on this matter, and he apprehended that experience in scientific questions was almost as valuable as theory, if not more so. Some years ago, for reasons that he need not enter upon now, he thought it best to give up intoxicating liquors as a beverage, though he freely confessed that he liked them very much. That made his testimony none the less valuable—perhaps a little more so. Now, since that time, generally, he had never taken them except under the doctor's orders, and it was a very nice question how far the doctors had been right. He had not implicit faith in the profession, because they differed so much amongst themselves. He recollected talking to Dr. Andrew Clark about it—and he supposed there could hardly be a higher authority—and he said, "If you take a few glasses of claret a day, or even a small bottle of champagne, it won't kill you nor do you any harm that I know of, but I do not think it will do you much good." He went on to say: A friend of mine amused me very much. He was a clergyman, and got very tired on Sunday evening, and asked the doctor whether he had not better take a glass of wine to put him

right. No, by no means, was the reply; go to bed. Now he thought that very good advice, but he did not come there to dogmatise, for it was a most dangerous thing to do so. He should be the last man to say he did not believe that there were occasions in every man's life, certainly in many men's lives, where the taking of a moderate amount of alcohol might be useful as a matter of hygiene. Very high authorities said so, and very high authorities said the reverse. He could not give a definite opinion in his own case, nor could he say that they had ever done him important good. He had known the time when he thought perhaps they were doing him a little good, but when he came to leave them off he did not find much difference, so that really his testimony was a very doubtful one, excepting on this point—that when a man was in fairly good health he was quite sure he was as strong and as well without. Well, if that were so, and he didn't doubt it for a moment after his own personal experience, then they had removed one obstacle out of the progress of temperance. He was old enough to recollect that everybody thought it a matter of course that they should have these things, and that they could not live healthily without them, but that delusion was dissipated, and they no longer thought so because they knew it was not so. But the real difficulty in the way of abstinence was that we liked these things, and that we thought we could not be companionable without them. People said, "Oh! dear me, how dull it is without this champagne." Now, he admitted that sometimes he felt he was not quite so lively without the champagne as he was with it, but still, some of the wittiest and the best men he knew did without it, and a man must really be dull if he could not be lively without it. He was quite sure that some of those who took a great deal were the dullest men in creation. Therefore he thought they should remove out of their way this great social difficulty, and he had always said that that was the greatest difficulty of all. But it was

all a miserable delusion to suppose that drink was indispensable to good companionship. Once get into our mind that this thing was destroying our nation, destroying its vitality and power, and then surely we would be able to give up some slight personal gratification in order to do good to the great mass of our population. When he thought of the complicated society in which they lived, and when he dived a little below the surface, he must admit that one of the most trying things was the awful amount of social misery everywhere prevailing. No men knew it more than medical practitioners, moving as they did amongst all classes of the people—in the hovels of the poor as well as in the mansions of the rich. Those evils came partly from mental conditions and partly from bodily infirmities, but far more than all from the misery the people had brought upon themselves by their own evil habits. He thought we must all admit that even in our own lives the greatest of our troubles had come about by our own faults, or at least it was very often so. He did not speak of those sorrows that came upon us in the providence of God, which we could not help, but those conditions of unhappiness that resulted from our own mistakes and our own follies. And if we looked into a different sphere of society from that in which we mixed we knew that no miseries so great came upon people as those which resulted from those drinks which we too often regarded as necessary for good companionship. He believed the habit of taking too much intoxicating drink was causing more misery than every other habit that could be named. It was not so on the Continent at any rate, but in England it had long been so; and when he looked at it from the competition point of view, he could not help thinking of those £140,000,000 which went down the throats of his countrymen every year, and what good they would do and what a blessing they would be if they were saved to the nation. If the drink expenditure of the last quarter of a century had been saved, what an enormous mass

of wealth there would be in the country! And where were we now as a people? We were going on in the same course, and we did not seem to get very much better. He doubted not his hearers were saying within themselves, "We want to discuss a scientific, not a temperance question." But still it was the sense of the great evil of the thing that led to the enthusiasm there was about it. He had merely come here to express his great sympathy with the scientific progress this question was making, and his conviction—strengthened by seeing so large an assemblage of medical men—that there was amongst the profession a growing belief that intoxicating liquors were not essential to the health of man. If this were so a decided obstacle was removed from the path of temperance reformers. He did not go so far as those who declared that "Every glass of wine a man took shortened his life." He thought that an exaggerated statement, and if alcohol were a slow poison, its action was very slow, not unlike that of tea, which some persons just as loudly condemned. So far as his information and experience went he did not believe intoxicating liquors necessary in health, or to sustain one under hard work. Many medical men were abstainers, and none worked harder than they. He only regretted that on this point they differed from one another so very much. He was greatly astonished at the consumption of alcoholic liquors that went on in our unions, and surely there must be some mistake in this matter. He hoped medical men would do their utmost to improve public opinion in this respect, as well as in others bearing upon temperance habits; for the people were always ready to lend them an attentive ear.

Dr. DENIS O'CONNOR, of Cork (ex-President of the British Medical Association) said he had been called upon very unexpectedly to speak on a very important subject before medical men, who would expect that a person should well weigh his words before he gave utterance to them. From his appearance they might imagine that he belonged to the old school—a school

before the use of alcoholic liquors came into such general use in medicine, the school that said of a patient, "If he has been in the habit of drinking before, allow him a glass of sherry and tell him the less he takes of it the better." He was sorry to think that in the medical profession there was a disposition to think that people long ago were fools, and they were rather doubtful whether they themselves were wiser, but they expected somebody would be in a few years to come, and that was the way he was afraid that these floods of evil had flowed in, viz., upon the suggestions of some medical men who, because they were brilliant, everybody thought ought to be followed, but who unfortunately became the worst enemies of mankind, for people almost of necessity adopted what they said. Within his time came this dreadful assertion that every disease was curable by alcohol, and he was pained, having to go through this ordeal, to witness what followed from these opinions, held by men who were comparatively young men. He was obliged to bow his head, and hope, and wait, and he had, thank God, lived to see better times; and he now appealed to every man here, that, although they would never give up alcohol any more than they would give up any other powerful drug, whether great reformation had not taken place in opinions amongst medical men, and the large attendance here this morning was the best proof of it. He sometimes heard people say that they couldn't cure disease unless they gave alcohol, and this was said of many diseases which, in his early days, medical men never dreamed of treating with alcohol. Were they not to remember that there was a moral side to their patient when they were trying to do good to his body—and should they not take care that they were not sending him back to his family with apparent bodily strength, but with a diseased and corrupted mind? It was most distressing at times to hear men say to him, "I was very well at such a time, but the doctor ordered me limited quantities of drink;" but they must

remember that limited quantities to poor weak human nature liable to temptation were sometimes fatal and usually dangerous. Give a patient a nauseous drug and they might be sure he would not repeat it; but if they gave him something that was pleasant there was a time when the child would take a little, but when the full grown man would like his bottle of champagne. It was the same story still. Do not increase a man's difficulties by any means. He would not dictate to the profession, but he might tell them that he had now passed threescore and ten years, and that if he had not been careful in this matter of temperance he would probably not have been here to address them. He was temperate, always to an extreme of temperance. In his family he took about two glasses of claret a day, which were not necessary, but he took them lest his family should say he was committing suicide, and that was the positive fact. Let them all as medical men know the wonderful power they had, and be careful how they used it. He sat in council with himself every day of his life, and let people come in one after another to have his opinion, but in his unfortunate country alcoholic drink had got to be known by the name of "nourishment." Nothing could get it out of their heads that it was nourishment, and probably some doctors would suggest that it was a "blood-making wine." What a splendid phrase to deceive people. They thought that red wine was blood-making wine. That phrase had done much harm, and some doctors had used it; but he thought it would take a great deal of wine to make as much blood as a glassful of milk. How delightful was it for him to find this love of milk coming back. It had saved his life, and preserved him to a comfortable old age. Such was the result of the strictest temperance. He would advise the old people to be temperate in eating, but the young people might eat a great deal. The evils done by intemperance were partly known and partly not known. There were more people died of that than died of typhus

fever, one of the curses of our country. He had said a great many of the evils of intemperance were known. There were some who died of delirium tremens, or, as a friend of his called it, "the usual thing." A young friend of his was absent from Cork for some time, and when he came back he asked, "What about John So-and-so?" "Oh, he's dead." "What did he die of?" "Oh, the usual thing." "What about James So-and-so?" "Oh, he's gone, poor man, he's gone." "What did he die of?" "Oh, the usual thing." A good many were *known* to die of the usual thing, but let him tell them that a great many were *not known*. A wife came and whispered to them that she did not like to hurt the character of her husband, but said, for some time past he was very fond of the brandy bottle. He took a great deal of drink, and never went to bed sober, although it was known to nobody. Every day the doctor had that whispered to him, the friends thinking it necessary for their own protection to tell the private history of the family. It was not drunkenness that was the test of too much drinking. The drinking was going on, damaging the liver, damaging the stomach, destroying the appetite, destroying the organisation, and ultimately produced death.

Professor AIKINS, from Canada, said he could perhaps best occupy the time placed at his disposal by describing the state of affairs in the territory from which he came. Ontario at the present time, for fertility, intelligence, and wealth, was the backbone of the Dominion. All the liquor shops in Ontario were closed at seven o'clock on Saturday evening, and not allowed to be opened until Monday morning. The immediate result of this was the diminution in the arrests for drunkenness. If they could extend that shutting up of taverns from Monday morning to the whole of the week it would be immensely better. No tavern could be opened without a petition signed by so many hundred persons in favour of its being opened. They had also a Permissive Act, which was meant that if a majority

in a county were in favour of total prohibition they must call upon the superior authority of that county, and submit it to the vote; and provided there was a majority in favour of it, then total prohibition was put in force in that county. He was a stranger here for simply a few weeks, and was in the habit of riding about London on the tops of omnibuses, because from that position he saw most. He noticed women in taverns with little children in their arms, or by their sides; but you would travel from one end of Ontario to the other without ever seeing a woman going into a tavern. He did not remember to have seen a woman going to the bar of a tavern in Ontario. He was connected with the medical school in Toronto, and he mentioned this because of the discussion on Dr. Kerr's resolution on Tuesday night; there were two medical schools, and they had their annual dinners, but there was no wine of any kind on the table. Some years ago it was somewhat of an effort to go to a public dinner where there was an abundance of wine on the table and take simply cold water; it was not an effort now. They could find the best in the land who would sit down at table even with the Princess Louise and take only water, and be all the better for it. He was utterly surprised to hear that there were liquors given to the people in the poorhouses here—people supported by the public funds. They never thought of such a thing in Canada. He was surgeon to a prison in Toronto, where they had 300 or 400 rascals incarcerated, and he never gave them a drop of alcoholic liquor except in some extreme cases in the hospital; but the idea of giving alcohol in prisons, workhouses, and eleemosynary institutions—that never entered their heads. Sir Garnet Wolseley, when he was in Canada, marched his troops some 400 miles through the wilds, his men sometimes up to their armpits in water, and enduring many hardships in order to reach the Red River, but there was not one drop of liquor served out, and there was not one case of sickness, save one man

who suffered from dysentery. So that alcohol did not appear to be necessary even in the army in Canada. Now as to the medical men; he supposed that one-half of the mortality amongst them was due directly or indirectly to liquor. As regards elections, no gentleman who was seeking a position in Parliament was at liberty to treat. If that could be proved against him he lost his place, and sometimes lost his power to be a candidate for some eight years. The taverns in Canada were all closed on election days. No liquor was allowed to be sold outside taverns.

Dr. GREGORY, of Bolton, said that he had been medical officer of health for eighteen townships, and one thing had struck him much—that in receiving the certificates of death, there was not one in twenty which correctly indicated the cause of disease. There ought to be an alteration in the law of registration, so that there should be some private mark to indicate whether or not the death had been wholly or partly produced by alcoholic liquors. He was satisfied that the English eat too much, particularly of animal food.

Dr. THOMAS, of Rawdon, said it was now fifty years since he commenced practice. For twenty-five years he had been a drinker, and for twenty-five years an abstainer. He was now past threescore years and ten, and never felt any physical weakness.

The CHAIRMAN said he had just been reminded that the President's wife in America had banished intoxicating liquors entirely from her table. He attached great importance to these social movements, and heartily congratulated the medical men present on having decided to separate the wine-bill from the dinner-bill at their annual dinner. They could not overestimate the value of making an inroad upon those stupid old drinking customs which had so long prevailed.

Mr. LUND, F.R.C.S., Professor of Surgery in the Victoria University, Manchester, said he had watched this movement for years with an increasing conviction, and which really he must express to the abstainers before him, that they had all the a gument on their

side. There was no doubt of it. If they looked at this matter from a scientific point of view, and if they were to attempt to show that alcohol was essential in many of the cases for which it had been employed, they must necessarily break down. The mistake which up to the present time the advocates of total abstinence had made was that they pushed their arguments too far. This was shown the other night in some of the arguments used by those who said they would not pay for the drink of other people. They didn't sit down to take wine for the sake of being intoxicated, but those who took it knew that within a very limited range it was really nutritious, but was poisonous when they went beyond a certain point. Seeing, then, that alcohol might be taken in either nutritious or poisonous doses, there yet remained this consideration—that it was such a dangerous element to deal with, that, in many cases, it was far better not to touch it at all. Then came the great problem for medical men to see how far they could find a substitute, and how far other forms of food might take its place; and it was only by constantly day by day watching the habits of the people, and seeing, on the one hand the extreme danger of allowing them to run riot with this perilous element, and then inducing them to study the various questions connected with food, that they might lead them to think whether they might not in a large number of cases do without it altogether. In surgical cases, and even in cases where there was great collapse, the brandy-bottle was the first thing resorted to, even before the patient was brought to the hospital. He had seen men brought in who had been dosed with brandy on the occurrence of the accident, and dosed again on their arrival, so that the man would suffer for many hours, not from the collapse caused by his accident, but from the collapse caused by the alcohol, till it really became a point, when a man was admitted, whether his collapse might not be the effect of what he had already taken. They had found the administration of

quinine injections and opium in many cases preferable to alcohol. No doubt if they were actuated by proper motives they would be able to recommend it much more largely than they had done in many cases, and there were those who thought they could do without it entirely. Milk had been spoken of as a good drink to substitute for alcohol, and a most excellent substitute it was. Alcohol would warm a man up very quickly, but in half-an-hour he was colder than he was before. But let him take half or a quarter of a pint of milk, and in ten minutes he was better, and would remain so for three or four hours. There was sustained power in milk, and not evanescent, as in the case of alcohol. In considering this matter, even from a medical point of view, they ought never to forget the magnitude of the evil and its universal diffusion through society. The increased size of this meeting showed that the profession felt deeply on this matter, and were willing to help the advocates of temperance all they possibly could.

Dr. RIDGE said he wished to state, for the information of the Conference, that the Medical Temperance Association had been in existence four years, and numbered 240 members in Great Britain who practised total abstinence. Every member was perfectly free to use alcohol as a medicine if he felt so disposed—membership referring to personal practice alone. It was their opinion, as an Association, that the public were looking to them for some definite information on the subject, and that there were no means of giving it more decidedly than by their own personal habits. He would be happy to send or give any information that might be requested of him.

Dr. NORMAN KERR proposed a vote of thanks to the National Temperance League, through Mr. Bowly, its president, for its efforts among medical men. Dr. Kerr went on to point out the position of influence the profession occupied, and the necessity that they should not be behind the wave of temperance that was now

passing over the land. If they did not rise equal to the occasion, depend upon it the profession would go down in public estimation. They must have an influence one way or the other; they could not help it, and if they treated alcoholic liquors as things that were innocent the result would be exceedingly injurious to medical men. One of the most encouraging signs of the times in regard to the profession was the passing of his resolution on the wine question at the annual dinner. It was the thin end of the wedge, and the day was not far distant when in this country there would be an indissoluble divorce between the medical profession and the whole of the social drinking system. When that was the case the medical profession would stand higher than it had ever stood before. If that position were not taken up, then the profession would go down lower and lower.

Dr. EYTON JONES (Wrexham) said he had attended several of these breakfasts, and felt extremely indebted to Mr. Bowly for the example he had set and the opportunity he had given to the profession at large to discuss the value or otherwise of intoxicating drinks. These meetings had had a large influence upon him personally, for in the conduct of an arduous practice he had given up alcoholic drinks, and felt far better on the total abstinence régime. He could recommend this course to any medical man, for though he might suffer probably in social life in some degree from the alteration in his habits, yet the opinion of society would rise gradually in his favour, and instead of being banned for being a total abstainer, he would be more respected and relied upon than even if he partook of stimulants. He was exceedingly pleased to hear yesterday Dr. Lauder Brunton's testimony as to the value of Dr. Richardson's researches regarding the effect of alcohol upon the nervous system. He believed thoroughly that if Dr. Richardson's investigations were attended to they would have a new

view of the action of stimulants, and instead of believing they were direct stimulants, as they had been taught, that they were indirect in their action, and therefore, but rarely in any degree so valuable as they had been represented to be. In conclusion Dr. Jones said he regarded Mr. Bowly as one who, more than any other in this country, had done good service in his day and generation, and to no other class of the community more than the medical profession.

The CHAIRMAN, in replying, said he could not express the pleasure this meeting had given him. How long his white hairs might be seen amongst them on these occasions he did not know, but as long as God gave him health and strength he did not know any better way in which he could use them to the welfare of his fellow-creatures and the glory of God than by labouring for the temperance cause. We had an individual responsibility. There was not a man who drank a glass of wine but thereby said that he was a believer in the use of it, whereas those who abstained were bearing their testimony against it. We did not live for ourselves, and we did not die to ourselves, for it was an important question on which side we would be—on the side of the safety and happiness of our country, or on the side of that which had ever been its ruin. Might God bless them all, and make them all a blessing to their day and generation.

The proceedings then closed.

A special Public Meeting, convened by the League, was held on the same evening in the Alexandra Hall, Cambridge. The chair was taken by Mr. Samuel Bowly, and addresses were given by eight medical abstainers:—Mr. S. S. Alford, F.R.C.S., London; Mr. R. Paramore, M.R.C.S., London; Dr. C. R. Drysdale, London; Dr. J. J. Ridge, Enfield; Dr. James Stewart, Clifton; Dr. John Thompson, J.P., Bideford; Dr. R. Martin, Manchester; and Dr. J. W. Sherfy, London.

CASES OF ALCOHOLIC INSANITY IN PRIVATE PRACTICE.*

By HENRY SUTHERLAND, M.R.C.P., *London ; Lecturer on Insanity to the Westminster Hospital.*

INTEMPERANCE and insanity is a well-known subject. I feel it, therefore, my duty, as one of the secretaries of this section, to explain to you, as briefly as possible, how it has come to pass that this point has been selected for your consideration and discussion. When I received the memorandum which informed me that one of the duties of the office I hold was to arrange some matter for debate, I immediately made out a list of those subjects which I believed to be at the present time most interesting and most attractive to psychologists. I forwarded copies of this list to the editors of the *Journal of Mental Science* and other distinguished members of the Association, and requested them to make choice of the subject which they considered most appropriate for discussion at this meeting. The selection of the subject, "The Influence of Alcohol in the Production of Insanity," was, I may say, unanimous. I was also exceedingly fortunate in obtaining promises from Dr. Bacon, Dr. Fletcher Beach, and Dr. Shuttleworth, to support the discussion by papers or by speaking on it. As, however, in the first instance, there were no papers promised on this subject, it became incumbent upon me, as having suggested this point for discussion, to make a few remarks about it, and to endeavour from my own experience in private practice to throw some original light upon it.

I must confess that, *in limine*, I approached the subject with feelings strongly prejudiced. Some of my own connections, some of my most valued friends, are burdened with the responsibility of an intemperate relation. I hoped, therefore, to obtain a larger

percentage of cases caused by alcohol than had been recorded by any previous observer, or be able at least to confirm the views and statistics of those who have believed that intemperance is one of the potent causes of insanity.

In this expectation I have been somewhat disappointed. For on carefully considering those cases, the histories of which were well known to me personally, and the premonitory symptoms of which have been carefully recorded in my case-books, I have been reluctantly forced to the conclusion that in a large proportion of cases, intemperance is not considered as an active cause, but merely as a premonitory symptom of insanity.

Naturally, in commencing an inquiry of this kind, it is necessary to turn to the works of others, and although I may be referring to points with which students of psychology are familiar, it is important, as a matter of comparison, to glance back briefly to the literature of the subject.

The two extremes of opinion with regard to the effects of intemperance in the causation of mental disease are found in the statements of Lord Shaftesbury and Dr. Bucknill. Lord Shaftesbury believed that, at least, 50 per cent. of cases of insanity resulted from the abuse of alcohol. Dr. Bucknill, flying to the other extreme, has expressed an opinion that an attack of insanity might, in many cases, be warded off by a judicious draught of the cup which cheers and which also inebriates. Lord Shaftesbury produced no statistics to support his theory of the baneful effects of alcohol as a cause of mental disease. Neither did Dr. Bucknill, so far as I am aware, inform us as to the number of cases he had met with in which alcohol had acted as a prophylactic remedy.

Passing onwards to more moderate

* Read in the Psychological Section of the British Medical Association, Cambridge, 11th August, 1880.

opinions and more reliable statements, and to those moreover supported by facts and statistics, we find that Dr. Poole has estimated the number of cases of insanity for both sexes resulting from alcoholic abuse at 25 per cent., this being the highest estimate from among the statistics of seven distinguished authors. Dr. Lee places the percentage at 11, this being the lowest.

Table of percentages of cases of insanity caused by intemperance:—

Dr. Poole	25 per cent.
Commissioners in Lunacy (1844)	18 „
Dr. Needham	16 „
Dr. Clouston	16 „
Dr. Kirkbride	13 „
Dr. Bucknill	12 „
Dr. Lee	11 „
Average number, 16; highest number, 25; lowest number, 11; mean number, 18.	

The average percentage of the seven authors is 16, the mean number 18, and Drs. Needham and Clouston will agree in placing the percentage at 16, the figure which corresponds with the average numbers. More lately the Commissioners in Lunacy have informed us, in their report for 1879, that from statistics obtained from all the asylums in this country, intemperance in drink produces the following percentages:—For males, 21·3; for females, 7·9; and for both sexes, 14·6; a figure not far removed from 16, the average just mentioned. We cannot but regard these statistics and figures with the utmost respect; but the question is, do they or do they not express the real state of the case as regards the etiology of insanity in connection with alcoholic excess? We have reason to believe that they do not.

Public asylum officials are placed in a much better position than are private asylum proprietors with regard to collecting large masses of figures, and from them deducing statistics. But we maintain that they have neither the time nor the opportunity that a physician in private asylum practice has of ascertaining whether any given act of a patient before his

admission is to be considered a symptom, or as a cause of insanity.

From careful inquiries made amongst the friends and relations of patients in my own practice, supported by the records contained in the case books of my asylum, I am led to believe that a large proportion of cases—in fact, one-third—are by most observers attributed to alcoholic excess, when in reality this habit was a symptom, and not a cause, of the disorder.

I must confess to have been somewhat startled by the result of my investigations, and I naturally expect that I may be asked upon what grounds I form this belief. They are as follows:—(1) From careful inquiries among the friends and relations of patients admitted to the asylums; (2) from the difference which exists between those cases caused by, and those accompanied by alcoholic excess, in symptoms, duration, curability, and the habits of the patient subsequent to his recovery on leaving the asylum.

Two hundred cases have been carefully considered—one hundred male and one hundred female. In 100 male cases I found 74 in whom there was no history whatever of intemperance. The number which remains after subtracting 74 from 100 is 26, which is somewhat higher than that given by the Commissioners' tables, which is 21·3. Out of these 26 I found 18 cases in which intemperance was in reality a cause; but the remaining eight, so far as could be ascertained from the relations, and from the records of the case books, were cases in which intemperance was evidently only a premonitory symptom.

In the 100 female cases 94 were free from any history of intemperance. This leaves six cases in which alcoholic excess was alleged to have been the cause, a number somewhat lower than that given by the Commissioners' tables, which is seven. Of these six cases four were caused by intemperance, and two were cases in which alcoholic excess was evidently only a premonitory symptom. Taking both sexes together, I found 32 cases in 200, or 16 per cent., in which alcohol

was alleged to be the cause of the mental disorder. Of these 32, 10 were cases in which excess was only a premonitory symptom. This leaves 22 cases in the 200, or 11 per cent., in which intemperance was actually the cause. The Commissioners' tables give 14 per cent. as the number for both sexes.

Supposing my figures, 11 per cent., to be correct, and subtracting this 11 from 14, we believe it to be quite possible that the three remaining patients per cent. in the Commissioners' tables might have been cases in which alcoholism was only a symptom and not a cause; and that if the superintendents who supplied the materials for these statistics had only had more time, and better opportunities for investigating the histories of their cases, the return percentage would have been much lower.

It is worthy of remark that my number, 11 per cent., exactly corresponds with that of Dr. Lee, the lowest percentage of the seven authors already quoted.

It is a matter of some satisfaction to find the percentages of cases alleged to be caused by intemperance amongst my two hundred patients so nearly correspond with the percentages given by the tables of the Commissioners in Lunacy. For males my percentage is 26, the Commissioners' percentage is 21. For females my percentage is 6, the Commissioners' percentage is 7. For both sexes my percentage is 16, the Commissioners' is 14. On closer investigation, however, my figures are reduced as follows: For males from 26 to 18, for females from 6 to 4, for both sexes from 16 to 11. That is to say, one-third of the cases in both sexes of my 200 patients, in whom intemperance was alleged to be a cause, were cases in which I believe it to have been in reality only a premonitory symptom of insanity.

I shall now endeavour to point out the distinction between cases caused by alcohol and cases where alcoholic excess was only a symptom. When intemperance is a cause, the previous habits of the patient are those of a

drunkard; when it is a symptom, the previous habits have been, comparatively speaking, those of sobriety. When intemperance is a cause, frequently no other influence can be detected which has produced the insanity, or the proofs of intemperance are so marked as to obscure all other points in the previous history. When intemperance is a symptom only, some other distinct influence is found to exist which is more likely to produce mental symptoms than alcohol itself—for instance, a blow on the head.

When alcohol is a cause, habits of intemperance have preceded the appearance of the mental symptoms, which have only been developed gradually. When the intemperance is a symptom, the mental aberration has preceded the abuse of alcoholic stimulants, and the mental symptoms are developed more suddenly. When alcohol is a cause, the mental symptoms are most frequently those of homicidal mania or suicidal melancholia, with acts of eccentricity. When intemperance is a symptom, the mental phenomena are those of melancholia of a subdued form, or delirium tremens.

I have observed a transient attack of epilepsy on the admission of two cases where intemperance was a symptom only of insanity. This I have only seen in cases where intemperance was a cause in the last stages of the disorder, and it was then incurable and permanent.

When intemperance is a cause, the delusions are of a disagreeable character, and are either those of suspicion or of grandeur. When intemperance is a symptom, the delusions are either of a quiet order, referring to persons other than the patient, or partake of the peculiar nature of those accompanying delirium tremens. Acute cases of alcoholic insanity recover; but if the intemperance has been a cause, the patient invariably takes to drinking again so soon as he is at liberty, and dies an early death, frequently from cirrhosis of the liver. Whereas if the intemperance has been merely a symptom, the patient frequently remains sober after his discharge from

the asylum, and is able to return to his duties of social life.

Chronic cases of alcoholic insanity do not recover. But if the intemperance has been a cause, there is a constant craving for drink whether the patient be or be not confined in an asylum. Such patients drift rapidly into the abyss of chronic dementia. If, on the contrary, the intemperance has been merely a symptom, the patient is always contented with a moderate supply of stimulants; his delusions and his mental condition remain stationary, but he does not become afflicted by dementia, even when advanced age comes upon him.

I shall now briefly refer to four cases illustrating these points of distinction. The first pair are acute, the second pair are chronic. Of the first acute pair, No. 1 is a case where intemperance was a cause. No. 2 is a case where intemperance was a symptom. Case No. 1 was a captain in the army, aged thirty-seven. Previous habits, those of a confirmed drunkard. Symptoms of homicidal mania. Had been guilty of brutal violence to his wife, culminating in his taking her in his arms and holding her over the outside of the balcony of his house and threatening to dash her on to the area railings below. His maniacal symptoms lasted but one day. The next morning he had completely recovered; but stayed in the asylum by his own wish, to keep him, as he said, from drink. The pupils were irregular, but this symptom was congenital. On admission he was suffering from bilious diarrhoea and a sickness, the result of his late potations. He brought a large bottle of brandy into the asylum in his pocket. He slept badly, and required sedatives at bed time. He was discharged at the end of a week, and immediately recommenced his habits of intemperance. These became more and more marked, and he died from their effects a year later. No. 2. An Indian civil servant, aged forty-one. Although he had lived in India, he had always been sober and steady. A month before admission he became very eccentric in his habits, and was evidently insane. Three weeks later, a week before admission,

he took to drink. The symptoms were those of quiet melancholia, with traces of delirium tremens. He had an epileptic fit the day before admission, but none subsequently. On the way to the asylum he imagined that there were crabs crawling about on the floor of the cab, and tried to kill them with his umbrella. He also thought the pattern of the carpet was an inkstand, and that he should upset it if he did not move it from the floor; that the birds on the chintz pattern of the sofa were eating one other, and that he had had a visit from the devil. He recovered in a week, but stayed, by his own wish, two weeks longer in the asylum, as he said he felt unable to control himself. His recovery was complete, and he has since his discharge remained temperate, and able to go about alone and enjoy life. No. 3 was a person of whose character I was unaware when I received her, as she was a kept mistress, aged thirty-two. For years past she had led a drunken dissolute life. Mental symptoms, mania with acts of eccentricity. She has stood on the top of a cab and driven it through the streets, has walked along a narrow ledge outside a house, thereby endangering her life; has thrown money amongst the crowd attracted to her house by her eccentricities; has presented a toy revolver at various people, but is not considered otherwise dangerous. Delusions—that she has been poisoned, that the police are all Jesuits. Believes that she is the authoress of certain well-known novels. Was very anxious to be at liberty again. The previous character of the patient was soon discovered, and she was discharged at the end of a week. She immediately took to drinking again, became an inmate of a county asylum, and soon drifted into chronic alcoholic dementia. No. 4 was a foreign baron, aged forty-one. Previous habits, sober and steady. There was a history of a blow on the head, given to him by his father (when riding with him) with a loaded hunting whip, who intended to murder him and inherit his estates. This produced mental symptoms, which came on very insidiously. Being a

person of weak character, he was laid hold of by a low publican in Wales, where he had gone to fish, and kept in a tavern concealed from his relatives. A cousin of the patient came to consult me about the case, and we went together into Wales and rescued him with great difficulty from the low villagers who were daily robbing him. He was found in a state of great filth and neglect, and his habit then was to walk about the house with a glass of beer in his hand, which he constantly sipped, thus consuming a large quantity and getting quite fuddled by the end of the day. On admission he had an epileptic attack, but none subsequently. Delusions: That his attendant, whom he had never seen till he came to the asylum, was the rightful heir to his estates, and that he and the attendant were changed at birth.

He had also others connected with the affairs of his relations. These delusions remained fixed for two years and a half. He had no desire at any time for more than a moderate amount of stimulant, and made no complaint at this quantity being limited. His mental condition is exactly similar to what it was on admission, being that of quiet, harmless melancholia.

From what I have advanced, I am led to the following conclusions:— That one-third of the cases of insanity usually supposed to be caused by intemperance are in reality cases in which alcoholic excess is really only a premonitory symptom; and also that the distinction between cases of insanity caused by intemperance and cases of insanity in which alcoholic excess is a premonitory symptom are very marked, if carefully looked for.



THE INFLUENCE OF ALCOHOL IN THE CAUSATION OF INSANITY.*

By G. M. BACON, M.D., *Medical Superintendent of the Cambridgeshire Lunatic Asylum, Fulbourn.*

It seems almost a foregone conclusion in the public mind that intemperance is the principal cause both of insanity and crime. The advocates of temperance never weary of urging these views, as though they were truths admitting of no doubt, and even medical men are apt to accept them too readily. I feel, therefore, that in urging any contrary view there is considerable prejudice to encounter. On the present occasion I am only concerned with the influence of alcohol, *i.e.*, its excessive use, in the production of insanity, and it is obvious that the only practical proof must be the number of insane persons confined in asylums whose malady can be attributed to intemperance. The following quotations will illustrate what

I take to be the popular opinion on this subject.

The Chairman of the Brookwood (Surrey) Asylum, in his somewhat extraordinary published criticism of Dr. Brushfield's report on the use of beer in that institution, says:—

“The last report of the Commissioners in Lunacy shows that one-seventh of the insanity of the country is due to habits of intemperance. Lord Shaftesbury states that the insanity of nearly 60 per cent. of the males is due to this cause; and Dr. Sheppard, of Colney Hatch, confirms the statement. Wandsworth Asylum Report for 1876 (p. 16) states, the most frequent ‘assigned cause’ has been intemperance. In the Brookwood Ninth Annual Report, the Report of the Medical Superintendent for the year 1875 (p. 20) states, ‘there can be little doubt that intemperance is the principal cause, more especially among the

* Read in the Psychological Section of the British Medical Association at Cambridge, August 11, 1880.

males; . . . fully two-thirds of the males prior to their discharge have admitted their disease to be caused thereby."

Dr. Hearder, in his last annual report of the Carmarthen Asylum, says, "The most serious argument against the use of beer as food in such institutions as this is to be found in the fact that excess in drink is undoubtedly the most potent cause of insanity."

Now, I deny that this is a "fact," and will proceed to give some reasons for my opinion. It is impossible to do more than glance at one aspect of the subject in the few minutes allotted to each speaker, and I purpose to show what lesson statistics teach us as to drink as a cause. The question of its influence is of great interest to all, but we have to consider it in a scientific spirit, and should not be led away by general assumptions which accord with a preconceived theory. In speaking of a cause we must mean, if not a sole cause, as that which has a main and predominant influence; and I think when a large series of cases is taken it can be shown that intemperance has by no means the prominent place that popular fancy assigns to it. I am glad, too, to find that I may quote in support of this view so good an authority as Dr. Clouston, who, in his last report, says (p. 15): "There is no more interesting fact in the history of mental disease, to my mind, than this, that in that most sober, moral, and self-restrained of all the English societies, the Society of Friends, the malady is as common, if not more so, than in the general population. Such a fact should make us careful and charitable in judging of the causes of this terrible disease, and absolutely disproves those sweeping statements that one sometimes meets with, that most of the insanity in the kingdom is due to drink."

The best statistics available for the solution of this question are those in the yearly Blue-book of the Commissioners of Lunacy, and these happen to be more reliable than such figures usually are, as they are founded on

returns from public asylums, made voluntarily with special care. According to these, intemperance figures as the cause of 14 per cent. of the total insanity of England and Wales in 1878. A comparison of the rate in various districts leads, however, to a very different conclusion. In the following list (A) are grouped several (9) counties, of the agricultural type, and resembling one another pretty closely. In another list (B) are five counties of a different class, in which the inhabitants are chiefly engaged in mining operations or coal production. In the third list (C) are included five large towns. We have here the principal classes of the working population of this country represented, and I hold that this is a fair estimate.

From these it appears that in the rural districts (Table A) drink causes from 5 to 14 per cent. of the insanity. In the 2nd table the ratio varies from 3 to 29; while in the towns from 2 to 30 per cent. are ascribed to the same cause. I ask, then, whether it is possible that the same cause can produce 5 per cent. in Oxon and 14 in Dorset, or 7 in Cambridgeshire and 14 in the three adjoining counties, and whether 3 per cent. in Cornwall can be affected by what is said to produce 26 in Herefordshire, 21 in Worcester, and 29 in Durham; and whether it can be true that only 2 per cent. of insanity in Ipswich is caused by drink and 30 per cent. in Norwich, while Bristol owns to 12 and Birmingham to 24 per cent.?

Do not these figures confute themselves?

Are Norfolk and Dorset, or Bedfordshire and Cambridgeshire so different that the people in one county are twice as drunken as in the other, while the proportion of insane to the whole population is about the same? As for Suffolk—to me it is a mystery. There are no female drunkards who go mad in that happy land. Even Ipswich—no mean town—cannot furnish one, though brewers thrive in that immaculate borough, and the only other place in England and Wales to compete with it is Cornwall, where there is a large mining population of, as is well known, a temperate and moral

disposition. I think anyone reviewing these statistics must hesitate to accept the dictum that one-seventh of the insanity of this kingdom is due to drink.

I will endeavour to consider the subject from another side, by a more minute study of the cases in the asylum with which I have been connected now for sixteen years or more. At the Fulbourn Asylum from 1858 to July, 1880, 1,950 patients had been admitted (not reckoning a few private cases). Of these 1,950 some 75 were supposed to have been brought there by drink.

The majority of cases were known to me personally. I have pursued them one and all through the case books, and the result of my analysis is this:—Four had insane relations as well as drink; five had injury to the head, or sunstroke also; in three cases the first attack occurred between the ages of fifty-one and seventy-five; in nine cases there was general paralysis; one was imbecile, and had been in gaol; three had had previous attacks of insanity; five suffered from organic disease of the brain; one was an epileptic—the fits not being due to intemperance; five were suffering from melancholia or dementia; four had mania—not of acute type. Without pretending that all these cases are to be accounted for irrespective of drink, I think I may fairly assume that so far from that being the main or principal one, it was quite secondary, or out of the question altogether.

To show my meaning more clearly, I append a few notes as to some of the forty cases alluded to:—In one case, attributed to “drink,” the patient was a woman, æt. seventy-three, and had been four years in an asylum. She had double cataract, and was in a state of senile dementia. She had kept a public-house, and was, therefore, considered to drink. In another, a man æt. seventy-four had various delusions, but is still alive and hearty, and useful. In another, the patient was tried at Sessions, and the Grand Jury ignored the bill and sent the man to an asylum, instead of, for the fourth time, to a gaol. In another, an old

man came in with atrophy of both discs and recent embolism of the central artery in one eye. In another, a married woman got troubled and jealous of her husband, not without cause. A year after her sister appeared—also insane, and for the second time. In another, the patient was stated to have been ill six months, originally with delirium tremens, brought on by intemperance, and the delirium is said to have terminated in hypochondriasis. It appears (the doctor writes) that he has not drunk to excess and not had delirium tremens; certainly never tremor or illusions of special sense. In another, a man at sixty had had small-pox four years before, “followed by imbecility of mind, and has since manifested animosity against his wife and daughter without reasonable cause.” I think these illustrations may show the little reliance to be placed on the information on which these figures and the consequent inferences are founded. I think they show that a much more careful sifting of details is necessary than is really possible before any observer can deliberately record that the insanity of any individual is solely or even mainly due to drink. A vast many things must be eliminated before such a verdict can be given. The instances I have given are meant to show the fallacies and mistakes, and not to attribute carelessness or ignorance to any one person. But if this is the history of the past, what is that of the present? Probably much the same, and for that reason I hesitate to accept the “facts.” There is yet another reason to be offered. What is the nature of the cases to be fairly attributed to drink? When you come to paralysis, blows on the head, sunstroke, domestic trouble, losses of property or friends, and hereditary taint, largely associated with drink as a cause of insanity, it is obviously unfair to select the last as the sole or most prominent factor.

I understand certain classes of cases attributable to drink almost alone:—(1) The acute and recent cases—allied to *delirium tremens*—

like acute poisoning. (2.) The chronic toppers, who slowly degenerate in body and mind. (3.) The dipsomaniacs, or those who have an irresistible craving for drink without other mental symptoms. (4.) The persons who drink simply from a desire to overcome trouble or emotion, or to nerve themselves for an effort—a neurotic class. But if you attempt to classify cases with any such accuracy, there will not be 14 per cent. of insanity caused by such patients.

TABLE A.—*Showing percentage of insanity attributed to intemperance in the following districts:—*

	Total	M.	F.
Cambs ...	7·8 ...	8·6 ...	7·1 ...
Bucks ...	10·7 ...	14·5 ...	6·6 ...

	The three Counties	Total.	M.	F.
Norfolk ...	6·0 ...	25·0 ...	9·4 ...	2·6 ...
Suffolk ...	7·8 ...	17·2 ...	— ...	— ...
Wilts ...	11·1 ...	21·5 ...	3·2 ...	8·5 ...
Dorset ...	14·2 ...	23·3 ...	8·1 ...	3·7 ...
Oxon ...	5·5 ...	— ...	— ...	— ...

TABLE B.

Derby ...	16·5 ...	20·1 ...	9·2 ...
Durham ...	29·2 ...	41·2 ...	15·4 ...
Hereford ...	26·09 ...	37·5 ...	10·3 ...
Worcester ...	21·9 ...	35·2 ...	8·5 ...
Cornwall ...	3·5 ...	7·6 ...	— ...

TABLE C.

Newcastle ...	18·9 ...	67·2 ...	6·6 ...
Ipswich ...	2·0 ...	3·7 ...	— ...
Birmingham ...	24·6 ...	39·3 ...	11·1 ...
Bristol ...	12·06 ...	6·3 ...	15·9 ...
Norwich ...	30·0 ...	43·7 ...	20·8 ...

—O—

ALCOHOL IN ST. GEORGE'S HOSPITAL, LONDON.

(From the ANNUAL REPORT for the year 1879.)

THE question of the quantity of stimulants administered to hospital patients has of late much occupied public attention. The Weekly Board, regarding this question as one entirely of medical treatment, abstain from offering any opinion with regard to it, the entire responsibility as to the administration resting on the medical attendant equally as in prescribing drugs; but the Weekly Board thought it expedient to ascertain whether in St. George's Hospital the consumption of stimulants differed much from the other large London hospitals. A committee was appointed for this purpose, who placed themselves in communication with twelve of these hospitals, and from information received they compiled a tabular statement of the quantity of wine and spirits and malt liquor, and the equivalent in alcohol per patient, and the cost of each at the hospitals. This table is interesting, as showing the great variation in the quantity consumed in the different hospitals. It is as well to state that probably about one-fourth of the patients

in all the hospitals are daily under treatment with wine or spirits, but it was not possible to arrive at any exactness on this point from the want of sufficient data. From a weekly return of the patients at St. George's Hospital, and those treated with wine and spirits, kept for the last ten months, it appears that about one-fourth, not more, of all the patients treated have stimulants other than malt liquor administered to them. In 12 London hospitals the quantity of wine annually consumed varied from 6·145 ounces to 45·248 ounces per patient, spirits from 7·098 ounces to 32·980 ounces per patient; the equivalent of alcohol in wine and spirits varied from 4·573 ounces to 21·117 ounces per patient. This table shows that in seven hospitals the annual average of the equivalent in alcohol of the beer, wines, and spirits consumed per patient is less than at St. George's Hospital, and in four it is higher. Of 720 patients admitted into Atkinson Morley's Convalescent Hospitals only ten received any stimulants beyond beer. One alteration has been

effected in St. George's Hospital in 1879, with the concurrence of the medical staff, viz., malt liquor is not now furnished to any patient except by order of the medical attendant. Hitherto porter has formed a portion of the ordinary diet. As yet but little alteration appears to have taken place in the quantity of malt liquor consumed.

There is a question that may be alluded to in the treatment of patients with stimulants, viz., their previous habits. From a very carefully constructed report by Dr. Isambard Owen, the Medical Registrar for 1877-1878, published in the St. George's Hospital Reports for this year, the following extracts throw some light on this subject:—Patients among others, are thus reported to have been accustomed, previous to admission, to a daily consumption of—

3 or 4 pints of beer, 2 glasses of whisky, age 53.

4 or 5 pints of beer, with frequent excesses, age 59.

10 pints of beer and 10 glasses of whisky, age 23.

Hard drinker, chiefly of rum, age 30.

Indulged in great excesses, often drinking two bottles of brandy a-day, age 43.

8 pints of beer daily, age 42.

4 pints of beer, with excesses, age 38.

3 pints of beer daily, age 42.

5 pints of beer, with excesses, age 38.

3 glasses of whisky, age 34.

1 pint of beer, with 6 glasses of whisky, with excesses, age 45.

8 pints of beer, with 2 pints of gin, or whisky, age 43.

1 or 2 pints of beer, with 10 glasses of spirits, age 36.

Up to 10 or 12 pints of beer, and 4 glasses of whisky, age 22.

12 pints of beer and 5 glasses of gin, with excesses, age 41.

From 8 to 10 pints of beer, and sometimes a pint of gin, age 39.

From 16 to 20 pints of beer and 1 glass of spirits, age 54.

Described himself as a hard drinker of wines and spirits, age 22.

12 pints of beer and 8 glasses of spirits, age 38.

10 or 12 pints of beer and from a half to 1 pint of gin, age 55.

1 pint of beer, with $\frac{3}{4}$ pint of gin daily, with frequent excesses, age 45.

1 to 2 pints of beer and 1 pint of sherry, age 53.

1 bottle of claret, age 39.

1 gallon of beer frequently, age 33.

Beer very freely, age 34.

4 pints of beer and much spirits, age 39.

From 3 to 4 pints of beer, and from 1 to 12 glasses of rum, age 54.

7 pints of beer and 7 glasses of spirits, age 41.

Drunk three times a-week, age 36.

A confirmed drunkard, age 33.

Immense quantities of whisky, age 45.

12 to 14 pints of beer, and a variable amount of rum, age 31.

10 pints of beer, 1 $\frac{1}{2}$ pint of rum, age 45.

The largest consumer of beer *never exceeded* 26 pints a day, age 35.

The largest consumer of spirits took 20 to 30 glasses of gin daily, age 30.

Some of these patients are said to be "gouty;" only one "total abstainer" can be discovered.

These examples are all taken from those under the care of the physicians. There appears to have been no such record kept of those under the care of the surgeons.

(From the *Lancet*, July 10.)

When we are asking the public to support the hospitals, as we very seriously do, it is only right to urge that hospitals shall make it clear to such patients as come to them suffering from one or other of the various forms of alcoholism that their diseases are largely self-induced. Patients who would resent a hint of this kind from any other quarter will often take it from a physician.

It is a matter, too, for serious consideration whether the large amount of money spent by hospitals on beer and other stimulants, besides conveying wrong teaching to patients, might not be spent to more advantage in

procuring other forms of food. The public, if asked to be less stinted in its gifts to hospitals, and indeed to

give generously, has a fair right to ask that hospital money shall be administered wisely.

Notes and Extracts.

THE INTERNATIONAL TEMPERANCE CONGRESS AT BRUSSELS.—This Congress was opened on Monday, 2nd August, and continued in session, with the exception of one day, till the following Saturday. Eight nationalities were represented. The National Temperance League was represented by the Rev. Dr. de Colleville and Mr. John Taylor; and the British Medical Temperance Association by Dr. C. R. Drysdale, London; Dr. David Brodie, Edinburgh; and Mr. H. Branthwaite, F.R.C.S., Willesden. Scientific papers contributed by the two last-named gentlemen, and by Dr. Norman Kerr, are given in full in our present issue. Drs. Dujardin-Beaumetz, Mottet and Lunier, of Paris; Drs. Vaucleroy, Carpentier, Martin, and Belval, of Brussels; Dr. H. Barella, and other medical men, took part in the proceedings. The scientific questions put for the consideration of the Congress were principally these:—What are the best means of obtaining distilled liquors which contain only pure alcohol, and by what means, legislative and fiscal, can the exclusive employment of such be assured? The second question embraced the study of the physical action of pure artificial alcohol, while the third treated of the best methods of preventing the use of poisons, now so largely mixed with alcoholic drinks. The National Temperance League's deputation to the King, and the *déjeûner* given by Mr. Taylor to the leading members of the Congress, were the means of bringing the question of abstinence prominently before the Belgian public through the newspapers, and facilitated the appointment by Congress of a sub-commission of nine members to investigate theoretically and practically, nephalism, or total abstinence from all alcoholic beve-

rages, and to present a written report to the Congress of 1882. That Congress is to be held in London, and the sub-commission is to consist of Dr. Benjamin W. Richardson, F.R.S., president; Mr. John Taylor and Dr. Lunier, vice-presidents; Rev. M. de Colleville, D.D., reporter and secretary; Dr. Norman Kerr, Mr. Harrison Branthwaite, Dr. Barella, Dr. Tarci and Major Hennequin, members.

TESTIMONIAL TO DR. NORMAN KERR.

—Dr. Richardson, F.R.S., presided at an interesting meeting held in the rooms of the Medical Society of London, on July 7, when a testimonial was presented to Dr. Norman Kerr, F.L.S., consisting of elegantly framed portraits of Mr. and Mrs. Kerr, an illuminated address, a basket of flowers, especially intended for Mrs. Kerr, and a handsome Victoria carriage. In its account of the meeting the *British Medical Journal* said:—"The ranks of the medical profession contain many men who have worked honourably, energetically, and successfully in the same direction as Dr. Kerr; but few have been able to advance so actively the cause which many have at heart; and certainly few men in general practice have been able to devote the time and talents which Dr. Norman Kerr has brought to the service of humanity, to the advancement of temperance, and to the honour of his profession and the benefit of his country. The testimonial is one which derives additional importance from the great number of well-known names to be found in the list of subscribers. It is, however, only a just tribute to one of the most honourable and single-minded members of our profession, and one who has in a remarkable degree illustrated the best qualities which can adorn the professional life."

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Original Contributions.

ALCOHOL AS AN ANTISPASMODIC.*

By BENJAMIN WARD RICHARDSON, M.D., F.R.S.,
President of the British Medical Temperance Association.

IN my essay on Intermittent Pulse, written twelve years ago, I expressed, on the subject of treatment, that alcohol was the sheet-anchor of treatment in extreme cases, and I gave a formula for its administration which has been very often used. Since I have taken up the advocacy of the principle of total abstinence from all alcoholic drinks I have been challenged in respect to the above-named passage as if there was something in it entirely contradictory to my present views.

Such contradictory method does not, however, lie for a moment at my door. No man can lead an active outspoken life and at the same time a life of continued learning (in which the student's is always the first part), without finding that something he has said requires correction or it may be retraction. Conscious of this fact I have ever aimed respectfully to follow the best examples of men who, under a like experience, have been obliged to take action on themselves, and at once to correct or to retract altogether whatever in my own mind and clear judgment I have seen occasion to recall.

In the present instance there is no necessity either for correction or for retraction. Between the general use of alcohol as a supposed food or luxury, and its use as a medicinal agent, there is the broadest distinction, a distinction as broad as that which exists between opium as a food to the opium eater and opium as a medicine for the sick. I have never given up the medicinal use

* Essay read at the First Meeting of the Session of 1880-1 of the British Medical Temperance Association,

of alcohol. On the contrary, it has been my steadfast study to learn, with all possible accuracy, the therapeutical value which alcohol really possesses; to compare it, in respect to its action, with other medicinal agents with which it is therapeutically allied, and to make sure when to administer it and how to administer it with prospect of good and certain success.

In this sense I have specially devoted my attention to the study of alcohol as an antispasmodic. If alcohol have any particular medicinal virtue it must be in this direction of action,—I mean as an antispasmodic,—that it is most useful. All our physiological observation upon the effects of alcohol point in that direction. Alcohol relaxes. It relaxes the arterial vessels to their extremest subdivisions: it relaxes muscles until they fail to respond to their nervous stimulus. “Helplessly drunk” is the common phrase employed to designate the man or woman who is paralysed by alcohol.

Alcohol relaxes the organic muscular fibre so completely that the relaxation induced by it extends even after death. In performing one of my experiments for what I called in my communication to the Royal Society on resuscitation in 1865, *artificial circulation*, I found that when a rabbit was suddenly killed in the usual way by a blow on the back of the neck, such was the resistance due to the shock exerted on the blood-vessels it was easier instantly after death to rupture the aorta by the pressure of an injected fluid than to inject fluid over the arteries into the veins. I found also that the diffusion of some agents over the body immediately before or immediately after death intensified this resistance while others reduced it. Chloroform and all its allies of the chlorine group intensified it. The alcohols, methylic and ethylic, and their respective ethers, together with methylal, amyl nitrite, and some other analogous bodies, so reduced it, that the injection through the minute circulation was most easily effected.

Comparing these facts I was led almost immediately after my first experiments with amyl nitrite in 1860-2, to put alcohol and the nitrite in the same position as relaxing chemical agents on organic and voluntary muscular fibre. Thus, therapeutically, alcohol came under the old head of an antispasmodic, and it is as such that I have since more carefully studied its clinical value.

In making this explanation I do not wish to assume that alcohol is of no other medicinal use than as an antispasmodic. It is an antiseptic. It reduces the animal temperature, and in that respect may be considered a febrifuge. It coagulates blood and albuminous fluids, and in that sense may be called a styptic. Its values in all these directions are different and, perhaps in all, comparatively little when tested by the side of other agents; but

I leave these considerations to keep to the great one,—its service as an antispasmodic.

In this regard ethylic alcohol holds a place peculiar to itself. It acts very much more slowly than amyl nitrite, ethylic ether, or methylic alcohol. For that same reason the relaxing action is much longer held on. Thus, in sharp spasm, such as that of angina, colic, tetanus, asthma, the action of amyl nitrite is quick, determinate and at the same time evanescent, while the action of alcohol is too slow to effect relief in any such space of time as would prove to be useful during emergency. What is more, the quantity of alcohol that is required to produce a relaxing effect in such cases is so great that other evils are apt to arise from the complication.

It is scarcely correct therefore, to say that alcohol is a good antispasmodic in cases of acute, tonic, or tetanic spasm. But in such cases it becomes a convenient and compatible vehicle for the more active direct antispasmodics, and as such I frequently prescribe it. Thus, in pure spasmodic asthma, I commonly order for an adult the following mixture:—

Amyl nitrite m. iij.
Alcohol, sp. gr. .830 $\frac{3}{4}$ ss.
Distilled water $\frac{3}{4}$ i. ss.
To make a draught.

This, with more water added to it, to render the dose agreeable to the taste, is very rapid in its action. I have at the present time a patient suffering from spasmodic asthma, who for two years past has always carried this compound with him. He has invariably some preliminary indications of an acute attack in the form of constriction across the chest, rapid and strong action of the heart, and coldness of the hands and feet. Before he took the remedy above named he found more relief from a sharp walk, or even a run, than from any other course of treatment, and he sometimes could stave off an attack by this plan. Now he at once takes his draught in cold water, ice-water if he can get it, drinking it slowly, and he so certainly obtains the desired relief that for fifteen months he has not had one continued attack. In this instance the alcohol keeps up the action of the nitrite, and this mode of administration contrasts well with the mode of administration I originally suggested, by inhalation. He first was treated by inhalation of the nitrite and so obtained relief, but it was a temporary relief only, and not comparable in result to the present method. In this instance the sufferer is a total abstainer from alcoholic beverages, for which reason so small a dose of alcohol as half a fluid ounce suffices, often without repetition, to keep up the relaxation. He is, however, instructed to repeat the dose every half-hour for three times, if relief should not follow at

once. A few times he has been obliged to take a second portion.

I have followed the same mode of using alcohol with the amyl as an anti-spasmodic in cases of angina pectoris, but I cannot say with the same good result. Paroxysms of angina in those who are subject to them are so terrible that they keep the sufferer ever on the point of expectation and dread that they are about to occur. The result is that patients constantly have resort to the alcoholic remedy, a practice which in truth leads to two bad results. In the first place, a craving for alcohol is soon created. In the second place, that craving once established itself keeps up a condition of alcoholism which is most depressing; which promotes trepidation and anxiety, and which prompts the seizure. Further than this the alcohol, if long continued, keeps up a form of acid dyspepsia, during which the urine becomes charged with uric acid, the secretions of the skin are made very acid, and the whole body is thrown into a state of rheumatic or rheumatoid disorder. Lastly, the effect of the alcohol as a continued antispasmodic is soon lost, unless the dose be steadily increased, when the action of the amyl is, from the dilution, itself also reduced in efficacy.

Except, therefore, in rare instances, I have given up the employment of alcohol as a menstruum for amyl nitrite in angina, and have returned to the plan of administration by inhalation,—a plan that usually leads to instant relief, does not cause dyspeptic disturbance, and does not lose signally in its effect, even after several months,—I had almost said years,—of employment. I have, in fact, a case of angina in which, after two years and eleven months, the nitrite has, on every occasion, at once subdued the spasm.

Let me, in parenthesis, dwell for a moment on the question of loss of effect from medicinal substances. This, as I think, turns greatly on the solubility of the substance in the blood, and the fluids of the tissues. If the substance be very soluble, so that great portions may be taken before there is saturation, the effect first produced is soon liable to be lessened unless the quantities be increased, whereupon there is, in time, set up by it a series of systemic changes which are physiologically different from those which, in the first instance, were simply useful. If, on the other hand, the substance is practically insoluble in the blood and fluids of the tissues, the secondary effects due to increasing absorption are avoided, and the agent continues to exert its primary influence from much the same dose for a long, and practically an unlimited period. Alcohol and amyl nitrite are examples of this rule. Alcohol, easily absorbed and diffused, requires an increasing dose, leading to new and unnecessary phenomena. Amyl nitrite, comparatively insoluble, repeats its action again in the same

manner and with good effect. Anhydrous ether, another antispasmodic, resembles amyl nitrite in this respect, but, being more soluble, not so completely. Ether may, however, be repeated an immense number of times without losing its effect, and without exciting systemic changes or structural devastations.

The diffusibility of alcohol in the blood and through the body renders it, therefore, a bad antispasmodic where it is often required. But this very fact of diffusibility makes it as useful in other cases, when an equable diffusion through the body is the best line of practice to be pursued. In illustration I may mention examples of shock or stun, mental or physical, as cases in point. During shock, as from a blow or from fright, the pallor of the face indicates the resistance that has occurred in the terminals of the circulation, while the heart sharing, through its vessels, in the same catastrophe, is unable to meet the strain to which it is subjected. Here alcohol acts perfectly as a restorative, when it can be administered and absorbed. Diffused through every part, it causes a relaxation, under which the heart is relieved, the circulation is set free, and the animation is restored. In short, just because a man intoxicated from alcohol bears shocks which might be fatal to a sober man, so a man under shock is relieved by alcohol. In the first instance the body was in a condition under which the organic motor-fibre is enfeebled by the alcohol, and rendered irresponsive to the concussion; in the second instance the contracted organic fibre is relaxed by the alcohol.

It is no paradox to say that in this particular mode of action, in cases of stun, alcohol resembles bloodletting. The old practitioners drew blood from persons who were stunned by physical or mental shock, and if they succeeded in getting a current of blood they were accustomed to witness a quick re-animation. I have seen this phenomenon myself in the early part of my career. What occurs from this process is relief to the right side of the heart, with removal of pressure and of resistance to the heart-stroke, so that the heart is enabled to rekindle motion. The relaxing influence of alcohol is of the same character of relief.

For a similar reason alcohol is a good agent to administer just before the administration of those anæsthetics which produce contraction of arterial fibre and convulsive spasm. This action belongs to all the members of the chlorine anæsthetic family, to chloroform singularly, and is no doubt, as I have pointed out over and over again, the chief cause of danger from them. To give a dose of alcohol therefore,—a dose sufficient to produce a demonstrable physiological effect,—before administering chloroform, is sound physiological practice; and I attribute much of the success which attended the administration of chloroform in my hands to this detail. I noticed so often that a full dose of

alcohol lessened the duration and intensity of the second or convulsive stage of chloroform, that I invariably gave a full dose before beginning to apply the inhaler. In my lectures on *Materia Medica* to the Royal College of Physicians I made this point a matter for direct demonstration. I showed the action of chloroform alone, of ether alone, and of chloroform after a subcutaneous injection of alcohol, on the hearts of three guinea-pigs that had been let sleep to death in the vapours. In the animal that had died under chloroform alone the heart was dead and the lungs pale: in the animal treated with ether alone the heart was beating briskly on the two sides, and the lungs were filled with blood. In the animal that had been treated first with alcohol and then with chloroform the heart was beating regularly on both sides, and the lungs were filled with blood.

Again, I showed an analogous experiment in my experimental lectures on Artificial Respiration. I showed two rabbits that had been made to cease to breathe in chloroform vapour, but one of which had previously been injected with alcohol. I started the process of artificial respiration in the two at the same time, as they came out of the narcotising chamber; and demonstrated that while the one that had been charged with alcohol was restored with the utmost readiness the other was hopelessly beyond restoration.

The antispasmodic action of alcohol is here shown at its best, and I should still, were I about to take or to administer chloroform, prescribe a preliminary dose of alcohol. For ether and nitrous oxide such a precaution would not be necessary; for methylal it would not be necessary. Those agents themselves play the same part as alcohol; they relax the arterial fibre.

The antispasmodic value of alcohol is realised again in other classes of disease or derangement, which have not, up to the present time, been sufficiently defined or recognised. I refer to conditions in which the balance between the impelling stroke of the heart and the recoil of the arteries is not in perfect order. In these instances we get the strange anomaly of a powerful impulsive heart, with a small feeble pulse, cold extremities, and pale surface of body. The persons in whom this condition exists are usually men of early middle age, of *nervo-sanguine* temperament, of active mental and physical habit, and of restless disposition. They are often men of letters, or artists, or are engaged in speculative business operations; and they are, as a rule, of rheumatic or gouty diathesis. Under undue pressure, hurry, or sudden fatigue, they become suddenly unwell; they say they are prostrated and disposed to sleep, or rather feel as if they could not keep awake. They are lifeless by comparison with what they were, and they are conscious of great irregularity and palpitation of the

heart. They digest badly; they complain much of cold; they complain much of giddiness, and they explain that they are nervous on the commencement of any public duty. The physical examination of these persons may show no organic disease of the heart, but an irritable and impulsive heart, with a very feeble pulse and a low temperature. Let me take from my case-book one typical example.

R. S. is a clergyman by profession, aged thirty-six, of bilious temperament, and very much engaged in work. He has suffered in early life from rheumatic fever, and still has occasional rheumatic pains. His appetite is fair; his sleep is fair; his memory, usually very good, is now enfeebled, and he feels physically weak. He is often dizzy, with tendency to delirium, and when he commences to speak publicly he feels such loss of power in the loins and muscles of the lower extremities he imagines he must fall. His face is pale; his extremities are always cold; his bowels constipated; the evacuations of clay-like colour, being sometimes firm and hard, at other times fluid and resembling yeast. The urine copious and pale, has a sp. gr. of 1018, but is free of albumen. The respiratory sounds are clear. The pulse is sixty-eight, and the three sphymophonic indications are present, but it is so thin and small it is scarcely perceptible at the wrist. The heart sounds are clear, but with an occasional soft murmur at the base on the right side. The impulse of the heart is intense, and is described by the patient as a "persistent palpitation." In this case I commenced the treatment by carefully regulating the diet and regimen, withdrawing tea, and enjoining less work. As the patient was neither a smoker nor a drinker of alcohol in any form, I encouraged him to maintain abstinence in those respects.

The symptoms in these examples all point to the one deranged condition. There is an irritation, so to speak, extending through the whole of the arterial system, by which the resistance to the flow of blood through the body is impeded. This leads to a temporary impairment of nutrition, and to central nervous exhaustion. In plain terms there is spasmodic peripheral resistance from an irritation which is felt by the heart itself.

In these cases, if attention be paid to the secretions as a preliminary; if the mind be relieved, as far as is possible, from worry; if daily exercise be enjoined with early hours for going to bed, and if full quantum of sleep be secured, the symptoms often pass away without other aid; but this is not always the case, and when the phenomena continue, alcohol with amyl nitrite, judiciously administered for a short time, is of signal service.

In the case I have recorded, I prescribed first nitro-hydrochloric acid with tincture of *nox vomica* and infusion of gentian together with an alterative. This not succeeding I prescribed

iron and quinine (Easton's Syrup). After some few weeks of failure,—accepting the case to be one of the class described above, I ordered:—

Amyl nitrite, m. ij.
Alcohol sp. gr. .830, ℥ iij.
Liquid Taraxacum, ℥ ij.

To make a dose to be taken three times a day, in a wineglassful of water, after food.

The result of this treatment was immediate. It was like the result of an experiment. On the visit of the patient to me a week after the treatment had commenced the pulse was full and soft, the heart's action was quick, the bowels were acting regularly, the mental activity had greatly improved, the body was of natural temperature, and the pulsation was much improved. At first the medicine produced some flushing and throbbing of the temples, but this passed away after two or three days, and in the course of a month the health was quite restored, on which the medicine was withdrawn. For fourteen months this patient has, I find, continued well, remaining still a total abstainer from alcoholic beverages. He is now doing his full share of professional work.

Another class of case resembling the above is often met with in which there is dryness as well as coldness of the skin, attended with lepra or psoriasis. In these persons there is, as a rule, a syphilitic history, acquired or inherited. In them the action of the heart is intense, with a feeble pulse and nervous exhaustion. These are benefited by alcohol in properly administered doses. I usually prescribe for an adult in such examples:—

Liquid Arsenite of Potassa m. v.
Pure glycerine ℥ i.
Alcohol, sp. gr. .830 ℥ ss.
Distilled water, ℥ i.

To be taken in half a tumbler of water three times a day after food. In some instances I also add to this prescription two or three minims of the nitrite of amyl, and I have seen recovery, when arsenic alone has failed, commence immediately on the addition of the antispasmodic. I have this week discharged a case of this kind, with recovery after five weeks' administration of the mixture the formula for which is given above.

There is a third class of case belonging to this group, of which the phenomena are much the same, from conditions that are different as to origin. In the cases now referred to there is probably no resistance to the circulation of blood from undue contraction of arterial muscular fibre, but there is relative resistance, owing to the circumstance that the action of the heart is enfeebled, and cannot fairly overcome the natural tension.

The following case is in point. R. H. is a man of science, aged thirty-eight, following chemical pursuits. He is of nervobilious temperament and phthisical history. He is not a total abstainer, but moderately temperate. He smokes regularly. He suffered some ten years since from remittent fever. His appetite is fitful, his sleep restless and disturbed with dreams; his memory is not so good as it was, and he is, physically, easily exhausted. He suffers from frequent "confusion in the head;" is depressed in spirit; is sometimes very irritable, and, as he expresses it, is always "vibrating." His temperature is now natural, but his extremities are usually cold. Pulse is 72, regular and very feeble; heart sounds are clear, but impulse very feeble; the respiration natural; the tongue creamy; the bowels sluggish. The urine is clear and free of sugar and albumen, sp. gr. 1020. The facial expression is heavy and tremulous. There is no indication of organic disease of any kind, but extreme nervous depression, and heart-stroke insufficient to overcome arterial resistance. I give this as a typical instance of a diseased condition in which for a short period of administration half a fluid ounce of .830 alcohol once or twice a day, with iron, if required, or nux vomica, or digitalis, is of the utmost service.

In the case named the alcohol was prescribed with Griffith's mixture, and with immediate benefit. The form ran as follows:—

Alcohol, $\bar{3}$ ss.
Tincture of nux vomica, m. v.
Compound iron mixture (Griffith's) $\bar{3}$ j.

To be taken in half-a-tumbler of water twice a day after food. It was continued for three weeks, and then gradually removed, recovery being complete.

There is another form of case, in which there is acute recurring spasm in the stomach or intestines, and in which, after taking food, or after long abstinence from food, or after much mental or bodily fatigue, the patient is seized with severe pain and faintness, which are not relieved until there is escape of flatus. These cases are sometimes, as we all know, accompanied by what is called gastrodynia, and the spasm, which is their marked symptom, varies from uneasiness and oppression to the most acute suffering.

In this state of disease there cannot be a doubt that alcohol gives relief. It reduces spasm and permits the free escape of gaseous products, and so it relieves pain, and brings speedy quiet. There are no cases in which alcohol acts more promptly than these. There are, unfortunately, no cases in which it proves a worse friend. On one hand we must not, by any false enthusiasm, deny its efficacy. On the other hand we must not, by any bigoted sentiment for it, deny its danger. Carried a *very little* too far,

it loses its effect, until a slowly fatal dose becomes almost a necessity of life. The patient, under the physician's own guidance, is, in fact, rescued from Scylla to be sacrificed on Charybdis. These are, *par excellence*, the cases that excite in the weak the desire for alcohol. The sufferers are of nervous or nervous lymphatic temperament, and they soon like and long for more than the direct relief from the too diffusible stimulant. From the local relief they court the universal degeneration.

I rarely see a week go by without having before me one or more of these examples of what may well be called nervous indigestion and spasm. I confess at once the extreme trouble and anxiety they give to a conscientiously anxious mind, which has to balance between the certain immediate good and the all but certain and distant evil.

I begin always the treatment of these cases without resort to alcohol. If I find that the sufferers have pyrosis, which is a very common accompanying symptom, I forbid specially two kinds of food, oatmeal porridge and tea. Tea I always counter-order, especially afternoon tea, and if the patient is a smoker I do my best to stop that habit. I then prescribe for the dyspeptic symptoms correctives for the secretions and one or other of the digestive ferments pepsine, pancreatine, or diastase. For the spasm I prescribe bicarbonate of ammonia and potassa, with nitrite of amyl and infusion of cloves, using glycerine as the solvent for the nitrite. The prescription usually runs:—

Bicarbonate of ammonia, gra. v.
 Bicarbonate of potassa, gra. x.
 Glycerine, ℥j.
 Amyl nitrite m. ij.
 Infusion of cloves ℥j.

To be taken when the spasm is present, and to be repeated every hour until relief is obtained.

Only when this fails, or when this and other agents fail, do I resort to alcohol. Then I add to the above mixture from half a fluid ounce to six fluid drachms of '830 alcohol, for brief periods of time, withdrawing the alcohol as speedily as is possible.

Looking upon neuralgia as a form of vascular spasm in tracts of nerves we have a very clear idea of the reason why anti-spasmodics are so useful in some forms of this disease, as immediate remedies. The alcohol in port wine has, for this reason, obtained its reputation for the relief of tic. But if, after the relief from relaxation has been obtained, there is one agent more than another which sustains the systemic irritation on which the pain rests, it is alcohol in any shape, and especially in that unknown sweet quantity called, ironically, port wine.

Admitting, therefore, the relaxing power of alcohol in the

neuralgias we have in using it always an ultimate danger to face, and happily we are not, I think, any longer obliged to face that danger. In croton chloral, and in croton chloral combined with quinine, we have an instant remedy, more effective than alcohol, and free of its reserved evil. For a year now I have successfully replaced alcohol by this new combination, for the use of which I am indebted to my good friend Dr. Elliot, of Hull. The formula is as follows :—

Croton chloral, gra. ij.

Quinine, gra. ij.

Glycerine, as much as suffices to make a pill.

The pill to be taken when the attack threatens, and to be repeated every two hours until relief is obtained.

The peculiarly painful spasm which attends the menstrual period in some women, and which becomes neuralgiac in its character, is another affection strictly under my present subject. I do not deny for a moment that in these cases a full dose of alcohol,—a very full dose,—often repeated, relaxes, and so brings relief. But perhaps never was so much evil bought at the price of this temporary good, as in these examples. That utterly untrustworthy compound sold as gin is the fluid with which these unhappy sufferers, often in early years, are dosed on these occasions. One of my lay friends who has a large number of women in his employ in a factory, writes to me on this topic, stating the demoralisation that the practice brings. He says, “In the young hands the time when the natural period is on is easily known by the odour of the gin in their breath.” “My wife,” he adds, “with motherly care, has been frequently amongst them to try to persuade them from the practice, for unfortunately the habit of taking the gin at these times soon infects the whole flock—sufferers and non-sufferers alike. But all her efforts are unavailing. The reply is that the gin certainly relieves the pain, and when the doctor is referred to he is said to confirm the statement, and I have been told that you confirm it. But cannot something else be done?”

In better classes of society than factory girls this same practice prevails, and we have all of us often to sanction it or replace it. It struck me some time ago, as I have once before stated here, that possibly the juniper which is present in gin might be, in some degree, the useful agent. Juniper increases the secretion from the kidney like ethyl nitrite, and might, I thought, be worth using, apart from the idea of gin. I have, therefore, given it in combination with croton chloral in proportion of three minims of the oil with two grains of the croton chloral made into a draught with glycerine and water.

This answers exceedingly well, and I press its use earnestly on your attention. The formula stands as follows :—

Croton chloral, gra. ij.
Oil of juniper, m. iij.
Glycerine, ℥j.
Distilled water, ℥i. ss.

To make a draught. To be taken when in great pain and repeated every five or six hours until relief is obtained.

In the spasmodic varieties of hysteria, with its neuralgias and other mimickries of disease, we meet with many conditions in which the questions that have been already before us come up for consideration.

In these states of systemic derangement we have to confront conditions in which the immediate action of alcohol as an anti-spasmodic might be indicated. Here, however, according to my mind, a line should be sharply drawn. If there is any known agent which above all others sustains the hysterical condition it is alcohol. For this reason, I, for my part, leave it out of the list of remedies altogether, not because I doubt its effect to relieve, but because I am sure that its effect to sustain the evil far out-balances the temporary advantage. There is a stage of alcoholic intoxication, the second, which practically is a form of hysteria, and I know of no precise method of prescribing alcohol that shall not impinge upon that stage and intensify it.

I have, I trust, now given to alcohol all the credit as an anti-spasmodic that belongs to it. I have given to it a wide range of action ; I have not disguised its value ; I have not concealed its dangers.

Let me now pass on to consider the mode of administration of alcohol for medicinal purposes.

In my lecture on the Alcohols, published so far back as 1869, in the *Medical Times and Gazette*, I wrote :—“ As yet alcohol, the most commonly summoned of accredited remedies, has never been properly tested as a remedy for human diseases. I mean by this that it has never been tested as alcohol of a given chemical composition, of a given purity, and in given measures. Wines, beers, and spirits are anythings, compounds of alcohols, and compounds of alcohols with ethers and other foreign substances. It is time now, therefore, for the learned to be precise respecting alcohol, and for the learned to learn the positive use of one of their most potent instruments for good or for evil.” In the eleven years that have passed since that was published, I have steadily followed out the practice there suggested, and for five years past I have never prescribed alcohol in any other form than the ‘830 ethylic alcohol—the ordinary pure, but not quite absolute alcohol of commerce. I have known, therefore, in prescribing alcohol,

for these five years, the precise thing prescribed, which is, I think, what few can say. I have by this means learned the value of dose, as well as of action. If I have wanted any other of the agents that belong to alcoholic beverages,—the bitter of hop, diastase, an ether,—I have added it in the same precise manner, and I most respectfully suggest that this is the only way in which alcohol can be scientifically applied in the treatment of disease. The advantage is all on the side of accuracy.

There is another and more cogent reason for this rule. By following it alcohol is kept in the hands of the prescriber and the chemist. When it has served its purpose it can, like mercury or arsenic, or other dangerous remedy, be withdrawn. Ordered as a common drink, instead of being prescribed, the patients become their own doctors and their own destroyers. It is hard enough, as we have seen, to prescribe alcohol so as to prevent evil from it; to order it without care is to endanger its current utility, and to make the perpetuation of its evils the most imminent of dangers.

An inquiry which springs out of these studies is the possibility of advancing further in the line of discovery towards substitutes for alcohol as an antispasmodic. I have shown that amyl nitrite may well come in for such substitution; and to this may be added ether, ammonia, methylic alcohol, or methylal. The two last-named remedies, when they are perfectly pure, are admirable substitutes. They are rather quicker in action, and the latter, methylal, is more pronounced in its effect as an antispasmodic.

On the mode of administering alcohol by prescription a word may be useful. I prescribe .830 alcohol, adding to it usually a little glycerine; one drachm of glycerine to the half-ounce fluid measure of alcohol and water. For those adults who are not accustomed to alcohol, half a fluid ounce of it in two ounces of water is a good standard dose. That dose will produce a distinct physiological effect. It will quicken the pulse to two thousand beats, and it will cause a preliminary rise of a fourth of a degree of surface temperature. This dose may be repeated every hour for four hours without harm, but not beyond that time with impunity.

For ordinary drinkers of alcohol the dose is small. They will take an ounce, or an ounce and a-half at once and not be seriously influenced, and to them, in emergency, the larger of these doses may not be too considerable. Its repetition must, of course, be considered with great care.

To us, who are engaged in the active work of the temperance reformation, these truths on the medicinal use of alcohol are of vital moment. It is as vain as it is untrue for us to declare to our patients that alcohol cannot relieve them under certain

conditions. If we tell them so, and suggest other plans, they simply resort to the thing itself, in its worst combinations, and instead of using it medicinally, they follow up the use of it, without asking our leave, and not knowing when to stop. We, therefore, lose the benefit of applying it as a remedy, and of stopping the use of it when it has performed its purpose. Thus we lose influence in a double sense. To those, again, who are not engaged in our contest: to those who with cruel apathy treat the temperance reformation as a sublime joke, and its leaders with scoffing contempt, these studies are not less vital. Soon it will be learned, even by them, that the temperance movement has a root which cannot be drawn, and a development which cannot be suppressed. Then will come a time when the lay voice will be heard, standing out against the empirical use of alcohol altogether, and questions will be put and arguments used that will be as fatal to the interests of our professional body as all kinds of class bigotry, pride and fanaticism, ever have been, when they have ventured to cross swords with advancements the power of which has been foreseen by all except those who were most interested in their recognition.



CASES TREATED WITHOUT ALCOHOL.

BY J. JAMES RIDGE, M.D., B.S.LOND., &c.

THERE must always be considerable uncertainty as to the credit due to any particular drug or line of treatment in effecting the cure of a case of disease. It must always be a matter of conjecture as to what the result would have been if the drug had not been given, or another line of treatment had been adopted. That the treatment pursued was the real cause of recovery—that is, that death would have occurred without it, must always be only more or less probable, and the degree of this probability will be very variously estimated by different men, according to their knowledge, their prepossessions, and their habit of mind. So also, if death ensue, the way is always open for the remark, “This case would have ended in recovery under some other treatment.” Certainty can, however, be obtained on one point, if on no other. If a patient recovers from any disease in the treatment of which some drug—let us say alcohol—has not been used, it is absolutely certain that this drug was not essential for recovery. The more frequently such cases occur, and the more severe their nature, or, at least, the more such cases resemble those in which alcohol is

usually thought to be required, so much greater doubt is thrown on the value which may have been previously attributed thereto. It would be foolish to say that alcohol has no physiological influence, and that some of its effects may not be utilised, if we knew just what they were and when they should be used. But it becomes increasingly doubtful, as such recoveries as those to which I have alluded multiply, whether all its power for good—whatever it may be—may not be completely secured in other ways; and, indeed, whether there are not drawbacks attending its employment which may induce us to prefer to dispense with its use altogether.

Those who have seen severe cases recover under their care to whom, at one time, they would have considered it absolutely indispensable to administer some form of alcoholic liquor, perhaps in considerable quantity, cannot fail to be much impressed with a conviction that many other cases which have in time past been treated with alcohol *secundem artem*, were not really so much benefited thereby (as regards their ultimate recovery) as they were then thought to have been. Since this has been my own experience, I will give some examples of such cases, merely premising that I have no objection to alcohol as a medicinal agent for what it is worth, but am sceptical of its traditional value, and always prefer to use other means when possible.

CASE I.—Caries of femur, tibia and patella, disorganisation of knee-joint; amputation of thigh and subsequently at the hip-joint; intercurrent erysipelas: recovery.

D. J. E., aged 6, was admitted into the Enfield Cottage Hospital under my care, in October, 1875, the child of poor parents and badly nourished. Eighteen months previously he had fallen down and injured his knee, and had been unable to walk ever since.

State on admission.—He was considerably emaciated. There was a sinus discharging pus on the inside of the right thigh above the knee. The lower end of the femur was much enlarged, and there was considerable effusion into the knee-joint, with flexion of the knee. The probe passed across and in front of the femur, but no dead bone could be felt. Evening temperature, 102·8°. He was placed on full diet, with extra milk, and was ordered perchloride of iron. Extension was applied by a weight and pulley.

The [general symptoms much improved under the diet and rest, but the local symptoms remained the same. It was, therefore decided to excise the joint.

October 21st.—Chloroform having been administered, I first made an incision on the inner side of the femur through the sinus down to the bone, which was found to be separated from the periosteum for about two-and-a-half inches from the tip of the

condyle and carious, so that the handle of the scalpel could be passed easily into the cancellous texture. The incision was then extended in front of the joint, which was found to be quite disorganised; there was a carious spot in the inner tuberosity of the tibia, and another in the patella. The extent of disease in the femur being so great it was decided to amputate the thigh at once at the junction of the middle and lower thirds of the femur. This was accordingly done by the flap operation. But little blood was lost, Esmarch's bandage having been employed. The wound was well washed with carbolic acid lotion, closed with sutures, and dressed with carbolic oil.

October 25th (four days after operation).—Temperature, 9 a.m., $97^{\circ}8'$; 9 p.m., $98^{\circ}4'$. The wound had healed by first intention except where the ligature on the femoral artery was situated and at one or two superficial points. The ligature came away on the fifteenth day. At the end of the first fortnight the temperature began to rise, and on the twenty-third day an abscess was clearly forming at the under part of the thigh, which was opened on the twenty-fifth day.

There was a sinus left from this abscess, and also at the original wound, and although these were continually syringed with carbolic lotion, they did not close, and discharged slightly. On February 11th the wound was re-opened under chloroform, and a piece of necrosed bone removed from the femur.

After this he improved considerably, but ten days later (Feb. 21st) erysipelas made its appearance in the left cheek, and spread to the forehead, and backwards over the scalp, the attack lasting a week. The temperatures were as follows:—

			Morning.			Evening.
February 20	...	...	$98^{\circ}6'$	...	...	$99^{\circ}2'$
" 21	...	...	$102^{\circ}8'$	...	...	$103^{\circ}2'$
" 22	...	...	$103^{\circ}2'$	...	...	$104^{\circ}4'$
" 23	...	...	$104^{\circ}0'$	...	...	$104^{\circ}8'$
" 24	...	...	$102^{\circ}8'$	...	...	$102^{\circ}8'$
" 25	...	...	$99^{\circ}8'$	...	...	$101^{\circ}6'$
" 26	...	...	$101^{\circ}6'$	...	...	$100^{\circ}2'$
" 27	...	...	$98^{\circ}4'$	...	...	$99^{\circ}6'$
" 28	...	...	$98^{\circ}2'$	...	...	$98^{\circ}8'$

The stump was not affected during this attack. He was delirious on the evening of the 23rd and the two following nights.

April 10th.—The note runs:—The wounds not having healed, and the probe revealing the presence of some dead bone, it was opened under chloroform, and a further carious portion of the stump removed.

June 2nd.—After the last operation the boy improved for a time; but the wound at the end of the stump never closed. Latterly for some weeks the temperature oscillated between 99°

and 100°. More necrosed bone could be felt, and it was therefore decided to make a more extensive investigation. The wound was therefore thoroughly opened, and, after the removal of about one inch of necrosed bone it was found that the periosteum was separated, and the bone necrosed for at least another inch. As it seemed probable that if this were removed the same process would creep further up the bone, it was resolved to amputate at the hip-joint at once. This was done; four arteries were tied, the wound washed with carbolic lotion and dressed with carbolic oil, as before. The operation was borne well, and immediately afterwards the temperature was 97·9°, and the pulse 136. Some hot milk was given, and a hot bottle applied to the remaining foot.

June 3rd.—Slept four hours after the operation. Sick at twelve hours and again at twenty-four hours after: has taken nourishment well; colour better.

June 4th.—Restless last night and sick twice: takes food well: milk, beef-tea, and two eggs a-day.

June 5th.—Passed a good night some sanious discharge from the wound.

June 6th.—Sick once yesterday and again this morning. Slept well. Tongue cleaner.

June 7th.—Slept well: tongue much cleaner: sick once. Thin pus from wound, which was dressed and injected with carbolic lotion (1 to 80).

June 9th.—Sickness stopped; is cheerful. External wound nearly healed (seventh day), slight discharge from interior.

June 14th.—A small collection of pus let out of the acetabulum by a director. Going on well; two days later the last ligature came away, and he made an uninterrupted improvement. He recovered strength and flesh every week, and was discharged in excellent health on August 27th, after a residence of 318 days.

REMARKS.—It must be admitted, I think, that the strain on this lad's strength was one of considerable severity. Nevertheless his usual appearance, and the absence of severe constitutional disturbance would have deceived a casual observer. I cannot but feel that his diet of milk and simple food, with the absence of alcohol, contributed largely to the maintenance of vital power, and enabled him to endure the constant drain on his resources, and to undergo so well the double amputation to which he was subjected. At any rate, it is clear that alcohol was totally unnecessary in a case in which, I venture to say, nine hundred and ninety-nine medical men out of a thousand would have ordered it at one time or other. It is a singular coincidence, however, in my experience, that it is very unusual to find men who will acknowledge that alcohol would have been suitable for cases which are known to have recovered without it, or that they would have

given it to them. I may add that the attack of erysipelas was traced to the admission of a patient with abscess and sloughing in the hand, which was therefore suspected to have had an erysipelalous origin.

CASE II.—*Thecal abscess : suppuration in hand and wrist : disorganisation of wrist joint : amputation of forearm ; recovery.*

G. N., aged 66, was admitted into the Enfield Cottage Hospital on January 31st, 1880. He was a farm labourer of intemperate habits. About a month previously the middle finger of the left hand became inflamed from an unknown cause, and suppurated. He neglected it until the inflammation and suppuration had spread to the palm of the hand (which was very hard and horny from his daily work) and to the wrist. A medical man made several incisions. On admission the hand was very much swollen and inflamed, the inflammation extending half way up the forearm. There was discharge from incisions both at the back and front of the hand, and over the lower part of the ulna. He was delirious at night, and remained in a half-stupid condition during the day, although he did slowly what he was told, and answered questions.

February 10th.—Has improved slightly. There is less inflammation about the hand and arm, but still much discharge. He is less feverish, and takes his food better. Milk diet.

February 21st.—His general condition has improved, but the hand and wrist still continue *in statu quo*. The joint is quite disorganised, grating on movement, from exposed bone ; two or three of the metacarpal bones are also necrosed. It was thereupon decided to amputate the hand and wrist. I performed this operation under chloroform, making a circular incision at the middle of the forearm. The wound was washed with carbolic lotion, and dressed with carbolic oil.

February 24th.—The wound has healed by first intention, with the exception of the point at which the ligatures are situated. His temperature has been normal since the first evening after the operation, when it was 101°. His appetite and general health have much improved.

The subsequent progress was excellent, and he rapidly regained health and strength. A small abscess formed at one corner of the wound about a month later, but this soon healed, and he was discharged on April 10th, after seventy days' residence.

REMARKS.—This man's previous habits were most unsatisfactory, yet nothing but good resulted from sudden abstinence, even in his weak and unhealthy condition, and at his advanced age. The operation could not have been better borne, and the result was most satisfactory.

CASE III.—*Pleurisy and pneumonia : recovery.*

C. H., female, aged 52, admitted into the Cottage Hospital June 8th, 1877—a tall, dark, thin woman, with a half-starved appearance; herself and husband both addicted to drinking, and very poor. She had been attacked four days previously with shivering, pain under left breast, hacking cough, and shortness of breath. On admission she was in a very prostrate condition. The breath was hurried, and the cough frequent and causing pain in the left side; some thick and frothy white mucus expectorated with difficulty. Friction sound below and to left of left breast. Evening temperature, 102.2° . Ordered Acid sulphuric dil: m. xv.; Tr: Camph: co: m. xxx.; Aq: Chloroformi, two drachms; Aquæ, to one ounce; every four hours. Barley-water, oatmeal, beef-tea, milk *ad libitum*, and one egg.

June 12th.—There was considerable improvement in the general symptoms; cough much less troublesome; breath less short; tongue moister; sleeps better; evening temperature, 99.6° . The friction sound was heard over a larger area, and there was some dulness and increased vocal resonance on the left side, and round to the base of the left lung, with crepitation.

June 13th.—Temperature, m. 99.2° ; e. 98.4° . Coughs little. Tongue dry; pulse irregular. In consequence of this irregularity ten minims of tincture of digitalis were added to the mixture.

On the 14th she was not so well. The pulse had become regular, but was very rapid. The digitalis was omitted. The temperature rose again in the evening to 99° .

June 15th.—Has been slightly delirious in the night. Temperature, m. 98.6° ; e. 99.8° . The dulness and increased vocal resonance remain the same as before; the phlegm was slightly tinged with blood.

June 16th.—Temperature, m. 99.6° ; e. 100° .

June 17th.—Is better this morning; temperature, 98.4° . From this point there was uninterrupted convalescence, with abatement of all the symptoms, and gradual disappearance of the dulness and friction. Her strength gradually returned, and she was discharged cured on July 20th, after forty-two days' residence.

This case was specially satisfactory on account of the previous habits and bad state of general health, and ill-nourished condition upon which the pleurisy supervened. It was just one of those cases which would be called asthenic, and considered by many to require alcohol, which the event proved unnecessary.

CASE III.—*Typhoid fever : extensive bedsores : recovery.*

This case must be described briefly. T. J. H., aged 19, a labourer, admitted March 29th, 1879. He had been taken ill a week previously, with headache, shivering, and fever, and had been

compelled to take to his bed on the third day. On admission he was unconscious, with subsultus tendinum and muttering delirium, dorsal decubitus, and no control over excretions, and these symptoms lasted, with little variation, a whole month. He was able to take milk, and did so whenever it was offered to him; he lived on this four weeks, with an occasional egg and a little beef-tea. The rose spots of typhoid were well marked, and there were tympanites, abdominal tenderness and abundant diarrhœa, but no hæmorrhage. The temperature was 105° on the evening of the day of admission, and varied between 102° and 104° during the first week (second of disease), between 101° and 103° during the second week, between 99° and 102° during the third week, and irregularly between 98° and 101° during the fourth week.

Bedsores began to form during the first week, and, notwithstanding the use of a water bed and every precaution, extended, during this period, until there were three of the size of saucers over the sacrum and each hip.

The typhoid symptoms abated during the first week, and the fever assumed a hectic type from the presence of these sloughs, oscillating between a morning temperature of from 98° to 99° , and an evening one of from 101° to 102° for five weeks more. During three weeks more the morning temperature was normal, and that in the evening between 99° and $100^{\circ}5$. During this time the sloughs were separating, and the wounds slowly filling up, his strength improving.

It seems to me impossible that any case, capable of recovery at all, could be worse than this lad was. The furious onset of the disease and its low type are sufficient proofs of its severity, and the event shows conclusively that these circumstances do not necessarily lead to a fatal result in the absence of alcohol. He was treated throughout the typhoid state with diluted sulphuric acid, tincture of opium, and chloroform-water, and subsequently with steel and cod liver oil.

[In giving publicity to the preceding paper we have pleasure in calling attention to a little volume by Dr. Ridge,—“The Non-Alcoholic Home Treatment of Disease”—which has just been issued by our publishers. Although intended for domestic use, it contains much valuable information and advice that may prove suggestive to our professional readers.]



ON THE POWER MEDICAL MEN POSSESS OF AIDING IN TEMPERANCE REFORM.*

By G. BLACKER MORGAN, L.R.C.S.I., Bishop Wearmouth.

I AM quite aware that in speaking upon this subject I am treading on ground where I shall have to pick my steps very carefully lest I do violence to some sensibilities. I know that so many hold the view that we should not go out of our way to interfere with those who ought to be quite capable of minding their own business; and that if we take care of ourselves, and each individually keeps within the bounds of a strict moderation, our duty will have been sufficiently discharged, and that our responsibility extends no further. In other words, if the hands which robbed and wounded the wayfarer were not ours no blame can attach to us if we leave him helpless and bleeding, and "pass by on the other side." Such is not my view. And so it comes that I venture to speak upon this matter in our meeting of to-day.

I would then propose to answer three questions—

- (1) Is temperance reform needed?
- (2) And, if so, what direction should it take? And
- (3) What ought to be the position of the medical profession with regard to it?

What thoughtful man amongst us cannot answer the first of these questions for himself?

If young, and just entering the profession, can he not remember many a class-fellow who has fallen through drink? Can he not recall, even from his short experience, scenes and incidents which he would gladly forget? Or perhaps bitter experience can tell him how drink had lost him opportunity, or robbed him of success. It is true that the deceptive mask of good fellowship is put upon it, and with it on, drink comes introduced, as by Iago, as a "Good familiar creature," and men are but too willing to forget that its familiarity has brought, and will again bring, them into contempt. From the middle-aged this question must receive even a more emphatic answer. How many victims have they seen to fall? How many disappointed aspirants to success have they known who owed their disappointment to one and the same cause? Into how many unhappy houses have they found admission, and have learnt that the heart-burning and quarrelling, the bitter words spoken by those who ought to have been knit together as one, and the cruel neglect which kept asunder those who might have been in heart, as they were in

* A Paper read before the North of England Branch of the British Medical Association at the Autumnal Meeting, October 5th, 1880, by G. Blacker Morgan, L.R.C.S.I., President of the Branch.

name, bound to each other, had been due to drink ! Time, which in passing has touched with silver some of our heads, and robbed our step of lightness, has also given to us an experience which ought to make us earnest and thoughtful men. To those of us whose practice is large and varied how much of the misery of drink is revealed ! Do we not daily see instances of its awful blight ? I take at random one or two from my own experience within the last few weeks. A gentleman and his wife are moving in good society. The lady is a secret drinker. The husband is earnestly spoken to by his doctor, who discovers the fact, and in his first surprise and horror he becomes himself an abstainer, and forbids the use of wine in his house. The effect is marvellous. The lady's health amends, her appearance improves, her breath no longer smells like an offensive sewer, and as health returns the unhappiness of that home begins to cease. But for how long ? The effort of self-denial is too much for the man, he again must have his accustomed stimulus, and presently the bloated face, the fœtid breath, the bloody vomit, all return, and the lady is again helplessly a victim in the fatal clutches of the destroyer. Or take another case : a delicate girl is taken ill and is found to have a hernia strangulated. The sister and the mother have a business to attend to and gladly accept the offer of a female friend and neighbour to watch the patient during the night after the operation. All is going on well, the sick-room is supplied with everything that can be wanted, amongst the rest with a bottle of brandy, and all retire save her who is to watch. In the cold twilight of the early morning the sister is aroused by a faint calling at her door, and finds the patient swooning on the floor ; and by-and-by she learns that the wretched woman who had taken charge had drunk the brandy and flung herself across the patient's bed, and in the darkness, for the light was gone, the patient felt this horrid woman fall upon her. She *could* not make her hear, she *could* not make her rise ; and to escape her drunken vomit she struggled from the bed, and fainted as she reached her sister's door. I felt a cold chill creeping over me as I heard this tale next day, and as my patient told it in feeble and often interrupted words I saw that the end was near. She died, and most certainly her death lies at the door of that unhappy woman who could not, even in a case like this, deny her craving for this "good familiar creature." But it needs not to tell of facts like these ; you know them, gentlemen, as do I. You know why you cannot trust your servant—you know why you fear for your son—you know the wretched anxiety which makes you dread, as in a nightmare, that your daughter or your wife should learn to drink. And you do so because around you every day—in your visits—in those who visit you—among your

friends, or in the streets—in newspapers, or in glimpses through the gin-shop's opened door, you see this universal blight, not only destroying all that is fair, and clean, and lovely, but loved and cherished by its victims who cannot shake *themselves* free from its fatal lures.

Then, is not Temperance reform needed? And, if needed, what direction should it take? My answer would be that reform should be sought by every means. Legislation should be obtained for restricting, and forbidding where necessary, the sale of drinks; but I know as well as anyone can tell me, that Legislation alone will not effect a cure, we cannot make men sober by Act of Parliament, but it will help; while men are being taught the principles of honesty, it is as well to have your hall-door locked at night! Education, too, will do much both by giving the mind occupation and by teaching better things; but we must never forget that amongst those whose ruin drink has wrought are such names as shine most brightly in the firmament of literature.

Edgar Allan Poe, with all his genius and all his remarkable beauty and precocious wit, reduced, we are told, himself and a gentle patient wife to utter destitution and her to death, by drunkenness; and afterwards, when engaged to be married to "one of the most brilliant women in England," had his engagement broken, and himself handed over to the police for his disgraceful conduct when drunk, and at the early age of thirty-nine he died a drunkard's death in a common hospital. Or take the case of Porson, the great Cambridge scholar, the accomplished Grecian, and scarcely less accomplished mathematician. Was all his scholarship sufficient to save him from falling into the lowest depths of debauchery and vileness? and though at his death the fellows of his college (Trinity), bore his pall in recognition of his great powers, in his latter years he was refused admission to their homes because drink had made him unfit to associate with Christians or with gentlemen. Or, to take another instance from the many victims of drink, what caused the death of the great author of *The Rivals*, *The Critic*, *The School for Scandal*? Why was Richard Brinsley Sheridan deserted and alone when he sank into a drunkard's grave after standing upon the heights of literary and social fame, and being the successful orator, the brilliant author, the confidential friend of the greatest, even of royalty itself? Was education to him a safeguard against this "good familiar creature" which lured him to his ruin, and in whose embrace he sank into the abyss?

Personal effort, and personal self-denial on the part of the sober, are certainly the most effectual means of staying drunkenness, and this leads me to the third question, "What ought to be the position of our profession in regard to Temperance reform?"

None see so much of the evils of drink as do we, both in the persons of our patients and in homes which we enter. The screen which hides so much from the world is thrown down for us, and we are necessarily let into the confidence of our patients. The black eye which others are told was caused by walking against an open door in the dark we know is the effect of the blow which a brutalised husband struck when a once-loved wife ventured to remonstrate with him for returning home so late. The "congestion of the brain from overwork" which the master of the house is suffering from we know to be alcoholic poisoning in the phrase popular known as delirium tremens; and if we possess so much more of the confidence of the public have we not a proportionate power? Surely we have—a power which no others can wield—and is not a grave responsibility resting upon us if we use not this power aright? It has been said that no one who has once suffered from delirium tremens was ever reformed, but this is not so. However difficult it may be to refrain from drink, it is possible, if the bold and decided course be taken of giving up the use of alcohol *entirely*. It is no use trying to help an unhappy wretch out of the pit while you prescribe for him strict moderation, "just a single glass of sherry, or a couple of glasses of claret." No, if he is to be saved there must be sudden, complete, and permanent giving up of every drop of alcohol, no matter in what shape it is given. And here I think is one of the many places where our power might be advantageously used. It may require a little courage to be firm with a valuable patient and give him unpalatable advice, but it is our duty. And if we act from this motive we shall never feel embarrassment. Let us never hesitate to be decided in forbidding the use of alcohol to anyone who has suffered from its abuse.

Again, do we not too often prescribe wine or malt liquor in a loose sort of way?

A lady came to me last week about her son. He is a youth of nineteen, and has just settled in London to learn his business. He had been a little out of sorts, and consulted somebody in London, and what was the prescription? "Drink three glasses of good port wine every day, as your blood is poor and needs it." The mother came to me saying that if it were really necessary his father and she would wish the lad to take this wine, but was it necessary? was it a wise direction to give a young man living alone in London, and with nothing to counteract the taste which so soon would be acquired?

Do we not too often err in this matter? Are we as careful as we ought to be in prescribing what after all is a potent drug? I fear not. The medicine is a convenient one, it is pleasant to the taste, the prescription is acceptable to the patient, and very easily

given, and we too often recklessly prescribe it. Should we consider it right to tell a patient to take a grain of opium whenever he felt pain or was sleepless? We *know* this would be injurious, and if the practice were followed the numbers who are victims to the pernicious habit of opium eating would be very largely increased, and it is the same with alcohol; sometimes in the treatment of disease it is indicated very plainly, and in some cases *it*, and it only, appears to have the effect we desire; but surely we ought not to tell our patient to dose himself, and surely we ought to retain in our hands the power to diminish or cease the medicine, and always bear in mind how great are the evils which this same alcohol is capable of causing, and be very chary of creating a taste for it which by-and-by will become an insatiable appetite which neither the victim nor we can satisfy or destroy. This is especially to be thought of in the case of those nervous and hysterical women whom we all have had experience of. Nothing relieves these cases so well as alcohol, but nothing renders their symptoms so incurable, and no class of patient becomes more easily demoralised under its use, and especially if the stimulant is combined with morphia or chloral.

These are a few of the means by which as a profession we can and ought to aid in Temperance reform.

There are many others, and among them personal abstinence; but into these I cannot enter save to say that with regard to personal abstinence it is a question for each man to decide for himself. Some there are whose health will not bear it, others who do not feel themselves called upon to make the sacrifice, and others who have not the power to deny themselves even in so small a matter as this. To these last I would only say, Make the effort and you will find it easier than you think; and you will find also that self-denial has a pleasure of its own, more enduring and more substantial than indulgence can ever give.



NON-ALCOHOLIC SUBSTITUTES FOR INTOXICATING BEVERAGES.

By E. McDOWELL COSGRAVE, M.D., Dublin.

THE Temperance movement went on steadily increasing for some years without much visible result. Some of the workers were discouraged; but the majority kept steadily on, feeling that they were right, and knowing that harvest would surely follow seedtime. With outsiders it was different; the vast body of

those who never originate ideas, but who fall in when success has followed the burden and the heat of the day, shook their heads, and, with the perception and taste of the chorus to a Greek play, exclaimed that the work was useless and without result; that, in spite of all the labour expended, in spite of meetings, speeches, tracts, and apparent conversions, just as much drink was consumed, just as much crime was committed, and that the gaols, poorhouses, hospitals, and lunatic asylums were just as full.

Now results are visible; many who began as members of Bands of Hope have grown up and remained true to their pledges. The revenue from drink has fallen off. That public opinion (with Parliament in its train) that thinks it steers, but whose only resemblance to a rudder is that it follows behind, has veered round. Teetotalers are allowed to be in their sober senses, and everywhere the cry goes up against "excess in drink."

This being the case, a new want has sprung up. A large and continually increasing number of people, instead of taking the beverages their representatives in the last generation took, require drinks free from alcohol.

Drinks free from alcohol are of course no novelty. God created water as the natural and harmless drink, and no matter what country is discovered, no matter what its animal and vegetable fauna, water is always found. Milk also is plentifully supplied in nature. Still the fact remains that for long alcoholic fluids have been looked upon as ordinary drinks, and there has been in many places a difficulty in getting anything else.

In our own houses we have always been more or less independent; but anywhere outside their walls we have had to depend upon the mercies (often anything but tender) of others. Travellers have, therefore, been until lately great sufferers: no matter where they were, whether at a roadside inn, in a great city, or even at a railway station, they could always get intoxicating drinks, but as for anything else it was hardly, if at all, to be got. To ask for a drink of water was to forget, in the pursuit of individual good, the "good of the house," and could only result in the production of a glass of diluted sewage drawn from a surface well. Ask for infusion of tea, and you would get a decoction of some alien shrub, charged for at sixpence or a shilling a cup.

The railway traveller was especially to be pitied. In summer the heat and dust might make the mouth dry and parched, in winter cold and want of exercise might benumb the hands and feet. In either case something to drink would be required, in summer something to cool, in winter something to warm. As a rule sufficient pauses were made to enable the weary traveller to

get refreshment, but there was no variety in the refreshment. Whether in summer or in winter, whether suffering from heat or cold, alcohol in some form or other was the only thing to be obtained. The sale of alcohol was so profitable that it would have been acting contrary to their own interests had the purveyors of refreshments introduced non-intoxicants. Alcoholic drinks increased thirst, and so, from a trade point of view, were better than thirst-quenchers.

But now a change has occurred. People are daily awakening to the fact that alcoholic stimulants are as a rule not only useless but absolutely injurious, and so more and more are resolving to do without them. There is therefore a demand for something else, and according to the almost invariable rule in political economy the supply will eventually equal the demand.

Now it is this word "eventually" which explains the reason for which this paper is written. The process may be sure, but it is certainly slow, and much injury may be caused by the delay. Assuredly many who would willingly abstain from intoxicants take them simply from the difficulty of getting any substitute.

This, then, is my object. The reiterated demand will surely cause a supply to be forthcoming, but in the meantime many will not take the trouble to repeat the demand, but will instead fall back upon the easily obtained alcoholic beverages.

Does not this give us a direction in which we can work, and that, too, without taking up our time or interfering with our ordinary pursuits, and without coming forward too openly as partizans of teetotalism? This last may seem a cowardly consideration, but most of us know the practical importance it has for medical men. I wish to point out the advantages which would arise could we make the supply equal to, and if possible slightly in advance of, the demand, and to suggest some of the means by which we may attain this end.

The number of non-intoxicating drinks has greatly increased of late. Nearly every country pays tribute in natural mineral waters as well as in artificial wines. Aërated waters have been multiplied, and we even read of "wines" and "beers" which are warranted free from alcohol.

Still more might be done in this way; the use of natural and aërated waters might be more popularised, but more variety is wanted. Zoedone has filled up one want, and can be given in many cases where nothing but a glass of wine would have done before. But there are many wants which are still unsupplied. Ale is taken for its bitterness, and stout for the feeding properties of the extract of malt it contains. Why should we not have non-alcoholic substitutes for these? An aërated water rendered bitter by the addition of gentian calumba, or perhaps better still

by hops, would be easily and cheaply made, and would rapidly become a favourite with the public. The difficulty is to persuade a manufacturer to undertake the production of even such a simple novelty, but this difficulty can be best overcome by medical men who can explain the need there is for such a beverage, and promise to recommend it when made. A malt extract, made up not as a medicine but as a pleasant drink would also supply a want.

But even with the drinks at our command we might accomplish a great deal of good not only by recommending them more, but also by using our influence to increase the number of places where they may be bought, and to reduce the price at which they are sold. Although at present in large towns, and even in many country places, light drinks can be obtained far more easily than formerly, they cannot be got nearly as easily or as cheaply as they ought, and in point of convenience and apparent economy they have not yet entirely supplanted beer.

A great deal may be accomplished by assisting societies whose object is to encourage the spread of coffee-houses, barrows, &c., but much can be done in private by bringing to bear that influence which undoubtedly we possess.

There are many people who would sell light drinks if a little pressure were brought to bear upon them. Others would sell at a smaller profit if once convinced that it was their interest to do so.

Some time ago a man started a coffee-barrow, and in the early morning, when men were going to their work, used to stand before a corner public-house. After a time he got customers, many being drawn from the public. The publican was indignant, and one morning strongly advised the barrow-man to move on. On the request being scouted a free fight ensued, the coffee man driving his opponent back into the house, and remaining victor of the roadway. In the long run, however, the publican vanquished his opponent by also selling coffee in the mornings. The warmth of the house, and the chance of a seat, drew the customers back from the stall. But although the barrow-man was defeated the good he did remained after him, for though he has given up his trade the publican still sells coffee. The supply originated a demand, and the demand continued so strong that the supply could not be withdrawn.

Once persuade publicans of this, that the only way to save themselves from being injured by the spread of temperance and by the consequent lessening of customers is to add to their trade and endeavour to supply abstainers also, and immediately the opportunities of getting harmless drinks will be more than doubled. The evil effects of treating will also be greatly lessened

as soon as it is possible to get non-intoxicants in the same places and as cheaply as beer or spirits.

Another direction in which it would be well to bring pressure to bear is with the directors of railway companies. We ought to be able to get tea, coffee, lemonade, milk, &c., at fair prices. On too many lines the prices charged for such simple refreshments are far too high, and the quality just as decidedly too low. There is also a great delay in getting such things, and when the train only stops for a few minutes the beer-drinkers are often satisfied before the tea-drinkers are supplied; and the guard inquires, "Any more for the train?" before the temperature of the tea is well reduced to tasting point.

On Sundays the absence of non-alcoholic drinks is often a source of harm. As a rule, commons and other places open to the public on Sundays are surrounded with public-houses, and absolute thirst may drive people to them who would never have gone had they an alternative. We owe it to those who have so little variety in their lives that when they do wander from their homes in search of fresh air, they shall not be tempted without having an antidote at hand in the shape of a temperance stall. As long as the public-house is open to receive them they ought, at least, to have a choice.

But of all ways for counteracting the temptations of drink, the most important is to lessen the prices so often charged for harmless refreshments. Until lately an ice could hardly be had for less than sixpence, but this year in many places they can be had for twopence, fourpence, or sixpence, according to quantity, the quality remaining the same. Lemonade can also occasionally—but *only* occasionally—be got reasonably, too many shopkeepers preferring to charge sixpence for what others can sell at a profit for twopence. A large and good cup of coffee can be sold at a small profit for a penny, but yet sixpence is too often charged for it also. The coffee-houses are showing up the extortion of this, and the co-operative stores are proving that cheapness and goodness are not antagonistic. One store in especial is setting a good example in selling a small cup of delicious *café au lait* for twopence.

Shopkeepers naturally object to ask less than people are willing to give. If we wish to do any good we must demand to be supplied at a fair rate, and persist in the demand until our object is attained. By this means, and by pointing out how reduced prices will increase the demand, and by sending as many as we can to those who do sell cheaply, we may accomplish much good.

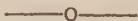
The diffusion of a little useful knowledge on the subject of filters might also do good. People may be divided roughly into

two classes, those who drink any water they come across in blind confidence, provided the taste and smell be not absolutely offensive, and those who distrust all water, no matter what its source. A little instruction as to the impurities of water and the means of correcting them would both check over-confidence and remove unnecessary fear.

One more point I would mention—caution in prescribing alcohol. I merely mention this, as in a matter between a medical man and his patients interference is impertinent. But I hope that the following thread-bare, but none the less true, considerations will be allowed weight:—Might not *non*-alcoholic stimulants be oftener used than they are at present? When ordering alcoholic stimulants should not the amount of alcohol they contain be carefully considered? Should not the possibility of giving a solution of absolute alcohol be always entertained? Should not a strict limit be put upon the quantity and the time in which and for which stimulants are prescribed?



Proceedings of the British Medical Temperance Association.



MEETING AT BRISTOL.

A SPECIAL meeting of medical men was held in Bristol on October 13th, 1880, convened by Drs. Challacombe, Greenly, Stewart, and Tivy, members of the Association, residing in Bristol. The chair was taken by F. Brittan, Esq., M.D., B.A., consulting physician of the Bristol Royal Infirmary, and about forty medical men attended. Dr. J. J. Ridge, as a deputation from the Association, read a paper on the subject—"Has not the time arrived for the Medical Profession to give the public a Scientific Opinion with regard to the value of Alcoholic Drinks as Beverages?" The conclusions he urged were:—

1. That alcoholic liquors are in no sense necessary to healthy life.
2. That they are of no importance as food to healthy people.
3. That they are utterly unable to

warm the body, and are dangerous during exposure to severe cold.

4. That they are very injurious when hard and continuous work has to be performed.

5. That alcoholic liquors are specially injurious to children.

6. That they increase the liability to disease, and shorten life.

7. That it is impossible to say what quantity can be taken with impunity, and therefore the less taken the better.

An animated discussion followed, lasting more than two hours, in which Dr. Long Fox, Dr. Shingleton Smith, Dr. Thompson, Mr. Barrett, Dr. Steele, Mr. Griffiths, Mr. Metford, Mr. Nelson Dobson, Dr. Aust Lawrence, Mr. Markham Skerritt, Dr. Stewart, Dr. Clark, Dr. H. Grace, Mr. Ewens, Mr. Cross, Mr. S. H. Swayne, Dr. Brittan, and Dr. Ridge took part.

QUARTERLY MEETING.

The Quarterly General Meeting of the Association was held in the rooms of the Medical Society of London, on Tuesday, November 16th, 1880, at 4 p.m. Dr. RICHARDSON presided. The minutes of the previous meeting were read and confirmed. Dr. RIDGE exhibited the various ingredients supplied to publicans with which gin and other spirits are flavoured and adulterated, and he also showed "The Mixing Book," printed for the use of "the trade," and read therefrom various directions for flavouring and otherwise altering gin and other spirits to suit the local public taste.

Dr. KERR did not think that adulteration was now often practised. Mr. WINTER BLYTH said, that as far as his experience went it confirmed this view. He had never found any adulterant in gin except water. Phenol naphthaline changed colour both with acids and alkalies, and he had never seen it do so when added to gin, and he therefore concluded that oil of vitriol and caustic potash were neither now added, though they may have been before the passage of the Adulterations Act. A VISITOR stated that he knew a merchant who had told him he sold large quantities of fusel oil to traders in spirits.

Dr. C. R. DRYSDALE then exhibited a new form of sphygmograph, after which

Dr. RICHARDSON read a paper on "Alcohol as an Antispasmodic—a Clinical Survey." A discussion followed the reading of the paper.

Dr. STEWART said that accuracy was very important, and the loose method of administering alcohol was much to be condemned. But he had found some patients resenting the use of a mixture of alcohol and water, preferring brandy and other spirits. He thought that chemists should keep a palatable alcoholic mixture which should only be sent out in medicine bottles.

Dr. NORMAN KERR expressed his gratitude to Dr. Richardson for his admirable paper, although a wider range had been claimed for alcohol as an antispasmodic than he had been accustomed to give it. He had observed in Glasgow that if alcohol was given previously to the administration of chloroform narcosis supervened more rapidly. Its effect as an antispasmodic was soon lost by frequent repetition, as he had observed in his own case, when suffering from hay asthma; a soothing effect only lasted for three doses, and then had to be increased. He found that in some cases brandy was retained when ethylic alcohol was rejected. He hoped that the paper just read would disabuse the public mind of the error they were in as to the practice of total abstaining medical men with regard to the administration of alcohol.

Dr. C. R. DRYSDALE did not think he should have prescribed alcohol in quite so many cases, and found that a great number whom he had thought at one time required alcohol recovered without it, and therefore the *onus probandi* lay with those who gave it, and we should give as little as possible.

Dr. G. B. CLARK observed that, in his opinion, when alcohol was given with nitrite of amyl, the latter had the greater effect. He thought that hydropathic treatment, such as the vapour bath, would relax the vessels very effectually. The strength of different brandies varied greatly, and therefore their effect was uncertain.

Mr. PARAMORE having made a few remarks, Dr. RICHARDSON replied, and said we ought to stand firm in this matter, and give a definite quantity of alcohol for a definite object: patients were in the habit of increasing the dose of wine or spirits, but would not do so with alcohol in a mixture.

The meeting closed with a vote of thanks to Dr. Richardson.

NOTICES TO MEMBERS.

Members and Associates who have not paid their subscriptions for 1880-1 are respectfully informed that these became due on May 1st, 1880, and it will save much trouble if they will be kind enough to send them to the Honorary Secretary without further notice.

The next Quarterly General Meeting will be held in February, in the Medical Society's Rooms, when a Paper will be read by Dr. G. B. Clark, on "Ava—the Polynesian Intoxicant." Further particulars will be supplied by circular.

NEW MEMBERS.

Dr. Little, Ben Rhydding.

Dr. Steele, Clifton.

NEW ASSOCIATE.

A. E. Carte, Esq. Dublin.

December, 1880.

J. J. RIDGE, M.D., *Hon. Sec.*

Miscellaneous Communications.

WHAT SHOULD WE DRINK?*

By DR. J. JAMES RIDGE.

THE Temperance Reformation differs from most other reformations, in that it is entirely negative. There is nothing for people to *do*, they only have "not to do" something. Total abstinence protests against doing something, but does not even undo it. It simply keeps a man in his natural state as far as alcohol is concerned. Nevertheless it seems a very desperate plunge to many who are asked to take it.

If they have to abandon that which they have been accustomed to regard as the chief source of daily strength, the assuager of pain and sorrow, the resort for genial comfort, cheerfulness, and good-fellowship, and the mainstay

of life, we must be prepared to answer their piteous appeals for something to fill the aching void, until they shall have acquired confidence and become accustomed to the novelty of the situation.

Hence the question, What shall we drink? has two significations: the first, *What is the best thing for us to drink?* and the second, *What may we take as a substitute for alcoholic liquors?*

In any inquiry we may make as to what we ought to drink we must not overlook the fact that there is one radical difference between water and every other fluid, namely, that whether we drink other things or not, we *must* drink water if we would continue to live. This arises from two facts: first, that 72 per cent. of the entire body is nothing but water, so that all the dry solid particles of

* A Lecture delivered in the Memorial Hall, London, on 25th November, 1880, under the auspices of the British Women's Temperance Association.

a man weighing 140 lbs. would weigh about 40 lbs.; and, second, that there is no solvent in nature which can approach water in its power to dissolve, and its adaptability to the purposes of life. The most strenuous opponents of total abstinence drink large quantities of water; in fact, as a rule, they drink a good deal more water than total abstainers.

It has been calculated that the quantity of water required in twenty-four hours, under ordinary circumstances, by a person weighing ten stones, is from seventy to ninety ounces. This is not all taken in a fluid form; the various kinds of solid food contain a great deal; but from two to four pints may be taken in a liquid form. Many, however, take less than this, and under great exertion in hot situations some would take more.

A considerable quantity of water, then, is a *sine quâ non* for existence, and the only question which remains to be decided is, In what form shall this water be taken—pure or mixed, hot or cold? There cannot be a doubt that water, pure and simple, is sufficient as beverage for every purpose of life, and that every addition thereto is either superfluous or noxious.

It should be remembered, too, that water is only capable of dissolving a certain amount, and if some solid matter of one kind is already dissolved in it, it cannot take up so much of any other as if it were pure. Thus, a pint of beer will not dissolve so much digested starch or meat as a pint of water.

There are circumstances, however, in which pure water is not so suitable as water which contains some solid matter. For instance, it has been found by experience that labourers performing very hard work cannot drink the large quantity of water required by them in its natural state, or, at least some water, without suffering from diarrhœa, but this can be quite prevented by the addition of oatmeal. The cause of this is doubtful, but the fact remains.

There are many people, however, afraid of drinking water without an equally good reason. They have a

wonderful dread of a mysterious quality which they call "rawness." There are others who profess to dislike water, and to whom the much-vaunted "draught from the crystal spring" is the reverse of attractive. This aversion, when genuine, must be considered as without doubt a perversion of taste. For if there is one rule of universal application it is this, that all animals revel by nature in love for pure cold water as a beverage. It is a natural instinct, the body requires the water, and the water is suited and agreeable to the body. Children, especially when young and with unperverted tastes, will always be found to enjoy cold water; some of my own children will ask for it at breakfast and tea in preference to anything else, and there is nothing so suitable for them. One might almost say that the capacity for enjoying a draught of cold water is a test of a natural and healthy state of body and mind in the region of appetite,

Water, then, must be proclaimed to be the only necessary and the most healthful drink for man.

But there is water *and* water, and, therefore, after deciding to partake of Nature's beverage many questions still arise as to the kind and the condition, which may detain us a short time.

Water exists in the various forms of distilled water, rain water, well water, river water, mineral spring water, sea water.

Rain water is, of course, the primary source of all potable water. Drawn from the ocean in Nature's distillery, and thereby separated from every impurity, it falls on sea and shore. In its contact with the air it absorbs a large amount of all the gases and vapours which may be present therein. Hence rain which falls upon a crowded city contains particles of carbon and gases, which are absent on the tops of the mountains. These gases are principally sulphurous acid and ammonia, and are soon washed away. Hence rain which falls at the beginning of a continued downpour will so cleanse the air that the latter portion will be practically

pure. So, also, rain which falls during the early morning hours is purer than that which falls during the day.

If rain water can be collected on a clean surface and stored in a safe place there is no healthier fluid as a beverage. It is not, however, so palatable as spring water, and is apt to be of a dark colour when collected from the roof of a house. The colour can be removed by one or two filtrations through a charcoal filter, and the taste can be improved by the addition of a small modicum of salt, but not sufficient to give a salt flavour.

Through being so pure and charged with gases there is danger of contamination of the water by metals, such as lead or zinc, if these are on the roof from which it is collected.

Distilled water.—When all the sources of water are impure, water of extreme purity may nevertheless be obtained by the process of distillation, by which the method of Nature is imitated. It is necessary to have a still for this purpose, which may be obtained at a cost of ten shillings and upwards. The process does not involve much trouble, and the extra cost of conducting it is nothing, as the waste heat of the kitchen fire can be employed. Distilled water is almost free from the presence of gas or air, and is on that account unpleasant, and also less suitable for drinking purposes. This is a defect, however, which may be easily remedied by shaking it vigorously for half-a-minute or so in a bottle half filled, when quite sufficient air will be dissolved to remove this objection. If it still remains unpleasant, it may be from the presence of a little organic matter, and this a filtration through charcoal will at once remove. A new still will sometimes give an unpleasant, metallic flavour at first, and this may be prevented by thoroughly cleansing it with soda. Distilled water should be stored in earthenware or glass vessels. *Sea water*, which is quite undrinkable, may be purified in this way, and most large ships are supplied with a distilling apparatus for this purpose.

Spring, well, and river water are

the chief sources of our supply. Their adaptation to drinking purposes is very variable. Spring water, either on the surface, or at the bottom of a deep well, is purest from a chemical point of view. That is to say, there is usually a relatively small amount of organic matter of animal or vegetable origin, and in some cases it is almost entirely absent. But, on the other hand, since the water of springs is simply rain water which has percolated through the earth, often for long distances, it is impregnated with various amounts and kinds of mineral or earthy matter, according to the nature of the soil through which it has come. It does not always happen that organic matter is absent, and hence the water of either a surface-spring, and even a deep artesian well, may be very impure, and quite unfit for drinking. In many cases, especially those in which the spring comes from the chalk or limestone rocks, the water is very hard, and this is certainly not so suitable as a beverage as softer water, or even rain water. In some cases such hard water will give rise to indigestion of a chronic and obstinate kind. Water thus hard may be softened by boiling it, or by adding to it a little limewater, or a very small quantity of powdered builder's lime, afterwards shaking or agitating, and permitting the sediment to settle: this is known as Clark's process.

Well water is more variable in its quality than spring water, because it includes wells of all depths and all situations. Deep wells, whose sides are cemented for a considerable distance and supplied by a spring, compare for purity with artesian wells; but, placing these at one end of the scale, we may trace a whole series, until the acme of impurity is reached in a shallow surface-well, from ten to twenty feet deep, in the back yard of some town house, with one or two convenient cesspools a few feet distant, or a leaking drain passing close to it; or, it may be, a parish pump erected just outside the village graveyard, where the fathers of the hamlet are continually being laid, to live over again in

their children in more senses than one.

Surface-wells are, as a rule, more or less impure. A well drains water from the land all round, extending a distance of about three times its extreme depth. Hence, if there are refuse heaps, dunghoops, and especially cesspools, anywhere within this area, the water can scarcely fail to be contaminated, unless the well be on higher ground, which is not often the case. The kind of soil affects the result considerably. Thus, the more porous a soil is, the greater will be the risk. Hence, gravel, sand, or chalk, will be more dangerous than clay, but, of course, it is just where the soil is most porous that such wells are most likely to be made. It is a matter of notoriety also that unless the degree of impurity be very great, these impure waters are brisker, more sparkling, and more pleasant than much water that is really pure. This arises from the fact that animal and vegetable matter, in decaying, give rise to much carbonic acid, and to certain salts called nitrites and nitrates, which impart the agreeable flavour. It should never be forgotten, therefore, that a pleasant taste is no criterion of the purity of a sample of water.

River water is generally softer than spring water because it is chiefly composed of water which drains off the surface of the ground. But this leads to impurity of another sort. If it drains off cultivated fields there will be more or less washings of manure; there will always be more or less organic matter of vegetable origin, with some derived from the animal kingdom. In some cases, too, it may have received sewage matter, or the refuse of factories. Here, again, the taste, smell, and appearance, are no criterion of the purity. It need hardly be said that vegetable organic matter is of small importance compared with that of animal origin. The water may possess a brownish tinge from the presence of vegetable matter and yet not be unpleasant or unfit to drink. Thus we see that river water is, when pure, admirably suited for dietetic purposes, but that, as it flows, it becomes more

or less contaminated. There is, however, a self-purifying as well as a contaminating process at work. As the stream flows along it is continually exposing fresh surfaces to the atmosphere; by the rapids and waterfalls air is constantly being churned into it. By these means, and by the action of aquatic plants, a process of oxidation is always going on by which it is effectually purified in course of time from all dead organic matter, whether of animal or vegetable origin. How long this takes is uncertain, and, therefore, also, how far the river must flow in order to effect it. But we see the results of this process in the nitrates and nitrites, salts which come from the oxidation of organic matter. Hence a river which at one place is very foul, may be found to be practically pure, or, at all events, deprived of all noxious power, some miles lower down the stream.

River water will, of course, require filtration, since it contains not only dead matter, but living creatures of many kinds, together with vegetables and spores of plants. Comparatively few of these organisms, however, do any harm to the body, and millions and millions of some of them are swallowed every year with impunity, and contribute their quota to the sustenance of the system. There are some who profess great horror at the idea of swallowing these small, or even microscopic, objects, who will immediately proceed to gulp down live oysters by the dozen. If they are not parasitic to the human body they need give us no concern. It will however, be desirable to filter, or at least to strain, all river water through linen, or linen and sand, lest, perchance, some parasite of the human body should happen to be present.

A great deal has been said as to the unfitness of river water for drinking purposes, and I may specially refer here to the adverse reports which are being so frequently issued by Dr. Frankland, respecting the water derived from the Thames, the only supply of at least one and a-quarter millions of the people of London. It is very important, therefore, to in-

quire whether it is right to drink this water which he so much condemns. On the other hand, he is always holding up as a model water that supplied by the Kent Company, from deep wells in the chalk; and that supplied by the Tottenham Local Board, from a similar source. This water is very hard, and contains far more solid matter in every gallon than Thames water does; but this arises from the large quantity of the salts of lime which are present therein. The amount of organic matter in the Kent Company's water is exceedingly small, whereas the amount of organic matter and its oxidized products in Thames water is considerable. From a chemist's point of view, therefore, the one represents pure, and the other contaminated water. But if all water which contains a minute quantity of organic matter, chiefly of vegetable origin, together with matters which result from its oxidation, is to be condemned and refused, then the water supply of at least seventy-five per cent. of the whole population would be included. It must not be forgotten that when these organic matters are oxidized they are deprived of their injurious properties and, therefore, the only dispute can be about matters which have escaped oxidation. These, again, are by no means always injurious. It may be readily granted that any important quantity of organic matter is not likely to do any good, may possibly do harm, and that certain kinds (not always present) will produce disease. When we see by analysis that some organic matter has got into a river or well, we know that there is a possibility of other matter getting in also, which may prove more injurious. The water may have been drunk for years with perfect impunity, by which it is proved that all organic matter is not necessarily hurtful; but all of a sudden some other impurity may present itself which may cause disease. It is not scientific, therefore, to condemn the water on the mere ground of containing organic matter, unless it is clear that it contains unoxidized sewage, or has already produced disease. It is just

here that Dr. Frankland fails. Dr. Dixon, the Medical Officer of Health for Bermondsey, has carefully compared the published total impurity of the Thames water with the mortality from diarrhœa and fever over a period of twelve years, 1868-79 inclusive, and he finds that there is no relation between the two; when the impurity was high the death-rate was often low, and *vice versâ*. Hence, tested by the result of its use, one may confidently state that this water which Dr. Frankland so often states to be "unfit for dietetic purposes," is not found to do any harm. The same conclusion is arrived at by comparison of the district supplied by the Kent Company and those supplied with Thames water: sometimes one has less diarrhœa, &c., and sometimes the other; there is no connection proved to exist between this alleged unfitness and the amount of disease. While, therefore, it is desirable to have the water as pure as possible, there need be no hesitation in using the Thames water as supplied by the Water Companies, especially if the water be filtered or boiled, or both.

I have no pecuniary interest in any Water Company. All I have said is in the simple interest of truth, and because I do not think it right that the public should be scared on such unsubstantial grounds. I should rejoice as much as anyone to see the supply of pure water undertaken by some representative body, and carried through to perfection. I should rejoice, I say, as a sanitarian, because, as a temperance reformer, I am convinced by the clearest evidence that, if the water were as pure as it is possible to get it, this would not be of the slightest service to the temperance cause. For in towns and districts which are already supplied with this pure water, we do not find total abstinence any more prevalent than in most places where the water is condemned. If people do not want to be teetotalers the alleged impurity of the water is a capital excuse, and is a side issue which saves them from the necessity of rebutting arguments with which they may have been pressed; but, in

ninety-nine cases out of 100, if the water were proved to be perfectly pure, these same individuals would find some other reason for declining to abstain. It is not, therefore, with the smallest hope of converting non-abstainers that I defend the present supply of water to London, but, in the first place, because I believe it has been condemned on utterly insufficient grounds, and, next, because I would like to reassure those abstainers who may have been exercised on the subject.

It must be remembered, however, that though the water supplied from the main were perfectly pure, there are sources of contamination through which it may be rendered unfit for use after it comes into the house. Very often the waste-pipe of the cistern passes direct into the drain, and so sewer gas can come up and dissolve in the water. Too often the cistern is not cleaned out from one year's end to another, and thus may become very foul. The remedy for these evils is a constant service of water, or, if this cannot be had, as much intelligent care in providing this prime necessary of life as in decorating and feeding the body. The water used for drinking purposes should be stored in clean earthenware pans, which should be filled daily as the water comes in. In any case in which the water is suspected, it will be desirable to take steps to obviate danger. Water may be purified from much organic matter by the addition of a little powdered *alum*, and then allowing it to stand for twenty-four hours; or, better, by a small quantity of *Condy's fluid*, sufficient being added to give the water a distinctly pink colour. The more organic matter there is present in the water, the more has to be added, and the more quickly is the colour discharged, and this forms a rough test of the purity of the water. The *Condy's fluid* gives up oxygen very easily, and forms brownish flakes, which fall to the bottom. The oxygen oxidizes the organic matter, and renders it harmless.

Filtration is an important mode of purifying water. All solid matters

may be removed by filtering through two or three thicknesses of linen, or through sand. If, in addition to this, the water be made to pass through coarse animal charcoal, all common, objectionable matters will be removed. A very useful filter may be made for a few pence by taking a large flower-pot, or a wooden pail, in which a small hole has been bored with a gimlet. The hole should be lightly stuffed up with a piece of sponge, or covered with a piece of linen; a layer of coarse animal charcoal, two or three inches thick, should be placed at the bottom of the pail, then a piece of linen, and then a layer of sand of the same thickness, and, finally, another piece of linen. Then water is to be poured in, and allowed to find its way out at the bottom, and to empty itself every day. After from three to twelve months, according to the purity of the water, the charcoal must be renewed, or may be exposed to a red heat in a closed iron saucepan.

If a more elaborate filter is required, there are two very efficient kinds in the market, namely, the Spongy Iron Filter, and the Silicated Carbon Filter: these are the only two that can be thoroughly relied on, though in the case of these also periodical cleansing and renewal are required.

But there is a homely method of purification which surpasses the most ingenious filter, and can be relied on to destroy germs of disease which may escape the charcoal and the spongy iron. That method is *boiling*. Water which has been boiled, and allowed to become cool, may be drunk with confidence. Sometimes impure water develops an offensive taste and smell in boiling; this may be prevented by treating it with a little of *Condy's fluid* before boiling, as previously described, and repeating this treatment afterwards, if required. But, apart from special impurity, boiled water is often objected to, on the ground of a flatness in the taste, which is disagreeable. This arises from the fact that the gases of the water have been boiled out of it. This objection can easily be removed by shaking the water with air, in a bottle or other convenient

vessel for a minute, especially if a minute quantity of carbonate of soda has been previously added; or the water may be passed through a filter in the usual way. The boiling water ought not to be allowed to stand in a metallic vessel to cool, else it may acquire a metallic taste.

Another plan of obviating this unpleasant flavour is by manufacturing toast-and-water; pour the boiling water on to some very thin, richly browned, but unburnt toast, and strain off when cool. Weak tea may be made, and if flavoured with a few drops of lemon juice, or a thin slice of a lemon, forms a very agreeable beverage without milk or sugar.

In one or other of these ways the most suspicious water may be taken with confidence.

But, besides the objection of its impurity, London water, and the water of other towns, is often refused in hot weather on account of its unpleasant warmth and insipidity. Ice will, of course, remedy this; but all cannot obtain ice, and to many a method of cooling the water, even only a few degrees, will be very welcome. Such a method, founded on the principle of cooling by evaporation, we can easily pursue. There are porous jugs and bottles to be had, through the pores of which, when containing water, some of it slowly oozes, and, evaporating on the surface, cools the water inside. Those who cannot afford these appliances may employ the same principle thus:—Procure a jug with straight sides—one with a cover, if possible; then pin or sew tightly round the jug a single layer of linen, reaching from the top to the bottom of the jug; put the water to be cooled into the jug, and stand the jug with its jacket in a saucer of water, placing them where they will be sheltered from the sun, but exposed to a draught of air: the linen jacket may be wetted at first, but will soak up the water from the saucer by capillary attraction, and evaporation will go on vigorously: if the jacket dries too fast it may be moistened with a sponge from time to time. In this way the water will be cooled.

In one or other of these ways I think that all reasonable objections to water as a beverage may be met. But it may be desirable to point out that if water is unfit to drink, it cannot be rendered fit by the addition of any alcoholic liquors. These may overpower an unpleasant flavour, but they do not affect the matters which are injurious.

Having discussed water now at some length, it is necessary to consider some substitutes or alternatives for pure water which are commonly used.

Alcoholic drinks demand some notice; for although I cannot include them in the list of proper beverages, yet they are so widely suggested in answer to the question, What should we drink? that I must record my conviction that such an answer is a great mistake. I do not intend to enter into details respecting the action of alcohol on the various organs and functions of the body. It will suffice to point out that alcohol in its pure and concentrated form is a deadly poison, and that it only becomes possible to take it at all by diluting it with water. The noxiousness of alcohol diminishes with the degree of dilution, and there is, no doubt, a point where the amount of alcohol present becomes practically harmless; but what that point is—whether it be one, two, three or four drops of absolute alcohol in a gallon of water, or more than this, there is no evidence to show. Science is absolutely dumb on the point, because true science never speaks unless it knows. It is true that there are a great many people who will rush in where science fears to tread, and will assure you with the greatest confidence that half an ounce or an ounce of alcohol taken daily in the shape of beer or wine will not and cannot do you any harm. But these gentlemen are speaking without their book; they do not and cannot know that this quantity of alcohol does not do any harm. They only think so, and are ignorant, perhaps, of the exact harm it does do, as also of many other things. Since, then, alcohol certainly injures when enough is taken, and it is impossible to say at what point it

first becomes injurious, unless it be at the first drop, it will be wise to keep to some point short of one drop until it is settled. It is very easy to ridicule the danger, but the fact remains that many have injured themselves irrecoverably who have always considered themselves strictly moderate in their use of alcohol, and a comparison of moderate drinkers and abstainers always shows that, other things being equal, the drink increases the amount of disease and shortens life. I contend that these considerations place alcoholic drinks quite outside the pale of suitable beverages, putting on one side altogether the reasons founded on morality and religion which would suffice to taboo them.

There are, however, non-intoxicating beverages in common use, about which it is desirable to say a few words.

There is, first of all, a group of drinks which consist of infusions or decoctions of various parts of vegetables, one or other of which is in common use almost all over the world. In this class we have *Tea*, the national beverage of China, and not less used here; *Coffee*, *Cocoa*, *Maté* or *Paraguay tea*, largely used in South America; *Apalachian tea*, *Oswegate tea*, and *Labrador tea*, the product of different plants, and used by the natives of North America; and *Abyssinian tea*, in Northern Africa. Besides these, *Sage tea* was commonly drunk in England before the introduction and general spread of tea; so also "*Salep*" used to be sold in the streets of London, being a hot decoction of several kinds of orchidaceous plants. It has been found, singularly enough, that several of these different beverages chosen by various nations in different quarters of the globe, nevertheless contain principles which are very similar to one another. Thus, the active principle of tea is called *thein*, and is identical with *caffein*, the active principle of coffee, and with that of Paraguay tea; and almost the same as *theobromin*, derived from cocoa. On the other hand, some of the plants employed are quite different in composition, and the only

point common to them all is that they furnish an agreeable *hot* beverage. It seems to me that here we have the explanation of the almost universal resort to some vegetable decoction or infusion. We may, therefore, consider for a few moments this question of temperature in relation to beverages. Should we drink them hot or cold? There can be no question as to the agreeableness of hot drinks, especially in cold weather, and when the body is exhausted by any hard work. Their immediate effect is to produce a glow in the chest, which may be felt almost immediately all over the body to the tips of the fingers. This sensation is a reflex one, due to the impression of the hot fluid on the nerves of the stomach. But, besides this, an impression is transmitted to the heart and blood-vessels, with the result that the heart beats more frequently and the blood-vessels are relaxed. In consequence of this the skin becomes more full of blood, the extremities become warmer, and perspiration may break out in suitable weather. Thus we have in hot fluid a powerful stimulant, more rapid in its action than cold alcoholic liquors. A good deal of the warmth which hot brandy-and-water and other similar drinks confer, must be attributed to their heat. We have, therefore, in hot fluids excellent substitutes for alcohol, when a stimulant is required.

But there are one or two cautions necessary in relation to their use. In the first place they should not be too hot. Hot drinks are often taken at a temperature only just short of scalding the mouth, but causing a scraping sensation of heat as they pass down the gullet: such heat is most decidedly injurious. A temperature of about 160° F. coagulates albumen, and short of that will blister the mucous membrane. The hottest fluid which can be held in the mouth is about 140° F., and this is too hot for ordinary use. The use of hot drinks is largely a matter of education. Children will call them "too hot" when we think them only just warm, and it is only by habit that we become thus insensible to the heat. Here we have a

hint which is enough to the wise. We may depend upon it that the instinct of the children is right, and we injure our digestion and the tone of the nervous system by the stimulation of hot drinks. The rule should be never to drink anything which is more than warm, say above 120° F. I attribute much of the dyspepsia and palpitation of the heart, from which those who drink much hot tea suffer, to the fact that they generally drink it very hot, and perhaps several times a-day. A relaxed and atonic condition of the system is thus produced, which is not consistent with sound health.

On the other hand, what is to be said respecting iced drinks ? When we consider the extreme care which Nature takes to maintain the internal temperature, even at the expense of the extremities, I do not think it can be advisable to cool the vital organs so much by the introduction of ice or much iced water into the stomach. It is also known that ice, when taken after a meal, checks, for a time at least, the process of digestion ; this cannot be desirable. Much cold water taken suddenly after exertion, when the heart is flagging, has often been known to cause illness, and sometimes sudden death, by its depressing action on the heart. Hence we conclude that if ice, or iced water, is taken at all, it should be sipped and held in the mouth until the temperature is somewhat raised.

Now we will consider briefly the characteristics of tea, coffee, and cocoa, as the beverages of this class most commonly used.

Tea has been known from time immemorial in China, but it was only introduced into Europe early in the seventeenth century by the Dutch East India Company. Its consumption has increased enormously since then, and the great demand has brought very much worthless stuff into the market. The chief constituents of the tea-leaf are four :—(1) astringent matter, from 13 to 18 per cent. giving the rough flavour ; (2) a small quantity of volatile oil, which confers the aroma ; (3) thein, a crystalline substance ; and (4) extractive, which consists of matters soluble in water,

some of which gives the well-known colour to the infusion. The amount of these constituents varies very much in different kinds of tea, and the quantity in the infusion depends considerably on the way in which it is made. The popular idea of good tea seems to be that it should be a dark brown fluid, with a roughish flavour, able to bite the palate, having considerable "body" in it, and that it should be taken nice and hot, with milk and sugar. In order to procure this kind of beverage the tea is placed in the teapot, boiling water is poured on the tea, and it is set aside to "draw," either on the hob or under a cosey, for ten minutes or more. Let us see what all this means. In the first place, the kind of tea which will furnish plenty of colour and astringent matter consists of old and coarse leaves, and often contains dust and sweepings of warehouses, or old tea-leaves recoloured. The finest teas are those which have most of the peculiar aroma, and these colour the water least of all ; in fact, in some cases, the water is only of a pale straw-colour ; this the Chinese will drink without milk or sugar. Many persons would despise such fine tea, and condemn it for its very appearance as "water bewitched," but, nevertheless, a delicious natural aroma is incompatible with a dark colour and a rough taste. In the next place, the method of making the tea would spoil the best that could be had. The boiling water extracts the volatile oil on which the aroma depends, and a good deal of the active principle of the tea, with a little of the astringent and extractive, in the course of three or four minutes, and the longer the leaf remains in soak after that, so much more of the astringent and extractive are dissolved, which tend to overpower the fragrance. Hence, the proper way to make tea is to heat a teapot or covered jug ; then to place the tea, previously measured, quickly into it, and to pour on to the tea as much boiling water at once as will be required ; let this stand for at least three, and not more than five, minutes, in a warm place ; then pour off the tea into the hot teapot which

is to be on the table. If a large quantity is wanted, it will be possible to make this of three or four times the strength required, and dilute it with hot water as needed.

One word as to the water. Soft river-water will make the best tea ; but it should not be too soft, since this will take up too much of the extractive. Boiling the water softens it in most cases sufficiently, but the water used in making tea should be freshly boiled and poured on as soon as it really does boil ; if it be allowed to boil for some time all the air is boiled out of it, and it is made more flat and insipid.

What are the properties of tea as a beverage ? Good green tea is more powerful than black by reason of its containing more volatile oil. This and the thein together exercise a powerful influence on the nervous system. They are *anti-narcotic*, and appear to act in directly the opposite way to alcohol on the higher nerve-centres. Tea is a stimulant to the will or voluntary power, producing, in moderately strong doses, a restlessness, which is the result of stimulation, and which makes the individual feel that he must go and do something and cannot rest quietly : in excess, it will also produce muscular tremblings—a sense of prostration, and palpitation of the heart. Dr. Edward Smith found that tea increased the amount of carbonic acid exhaled from the lungs (thus also contrasting with alcohol), and there was greater depth and freedom of respiration ; he regarded it, therefore, as increasing the amount of tissue change : the action of the skin was augmented. It must also be noted as an important feature that, although, as with almost all drugs which affect the nervous system, tolerance of its action is established by constant use (that is to say, a person accustomed to drink tea can gradually increase the amount without any obviously ill effect, until he can take a quantity which would have seriously affected him at first), yet it does not establish an irresistible craving for itself in the same way that alcohol does, and can be abandoned with far greater ease.

To tell the truth, however, I have considerable doubt, looking at the matter simply as a physiologist, whether it is desirable to use habitually any of these drugs which thus affect the nerves, whether narcotics or anti-narcotics. Yet there can be no hesitation in choosing between these two, and I know of no facts which would condemn the use of a small quantity of good fragrant tea at one or, at most, two meals a-day. If these limits be transgressed, we see every now and then clear proofs of injury, and can reckon on much when the proof is not so clear. It may be an exaggeration that at a certain tea-meeting there was a person who, by her unbounded capacity for imbibing the “ cups which cheer but not inebriate,” “ swelled wisely before the wery eyes ” of the observer ; but still there are cases not unknown in which an exact method would detect a perceptible enlargement. Half a pint of good tea is quite enough for any one, and, if more fluid is required, which is seldom the case, it should be diluted, or made up with other things. Then, again, the tea should not be too strong ; made as I suggest, it will be all right, but if a coarse tea is left to brew for a long time the effects will be injurious, especially if this sort of drink be taken every day, and three or four times a-day. The clearness of head and activity of thought will be succeeded by reaction in the morning with a sense of exhaustion proportionate to the previous excitement. All these effects will be intensified if the tea is taken when very hot. Indigestion, in the form of atonic dyspepsia, is a common result of this frequent use of strong, hot tea, and is more likely to follow the use of the rough, astringent kinds, especially when these are taken with or soon after dinner, or a meal at which meat is taken : the tannin of the tea interferes with the production of gastric juice and its action on the food.

The finest teas have their delicious aroma injured by the addition of milk and sugar ; to enjoy them they should be taken *à la Russe*—that is to say, a very thin slice, or part of a slice, of lemon should be put in each cup.

This forms also a delicate and delicious beverage when cold, and is intended to be sipped, and not taken in a draught.

If some warm fluid is required more frequently, there are, besides coffee and cocoa, the sage and thyme tea of our great-grandmothers, and other flavouring syrups of which they knew nothing. It is certainly best, however, to get out of the habit of drinking so much hot or warm liquid, especially between meals.

Coffee now claims our attention; the beverage of a hundred millions of people. Its home is Southern Abyssinia, whence it was transplanted to Arabia, thence to Persia in 875, and introduced into Europe, at Venice, in 1615, reaching England about forty years later. In Arabia and the East a decoction is made of the unroasted berries, and this is taken together with the grounds. Coffee contains (1) a volatile oil, which is developed by roasting, but which is less in amount than that present in tea; (2) astringent matter, allied to tannin, of which there is about 5 per cent. in the raw state; (3) caffein, which is identical with the alkaloid thein in tea. In former times the beverage coffee used to be made by boiling the ground berries, but by this process most of the aroma is boiled away. The best plan is to pour boiling water on it, exactly in the same way as in making tea, then stir up, or pour out a cupful or two and pour them back into the pot, by which the particles of coffee which tend to float are mixed up properly with the water. It should then stand a few minutes before use, straining it first, or as it is poured out. This plan, however, while furnishing the coffee with the whole of the aroma, does not extract all the virtue of the coffee. This can only be done by boiling it, and therefore the grounds left by the above process should be boiled in some more water afterwards, then strain the liquid, and set it aside to cool in an earthenware jug, and let this be boiled up on the next occasion and poured on fresh coffee instead of plain water. This plan secures both the aroma and the strength.

Coffee is more stimulating than tea, and increases the force and frequency of the pulse, which tea does not do. Dr. Edward Smith has shown that it also increases the amount of carbonic acid expired, and the quantity of air inspired, and the rate of respiration, thus favouring tissue change. It decreases the action of the skin, and usually tends to constipate. It acts on the nervous system in a similar manner to tea, but much less intensely, arousing the mental faculties, and disposing to wakefulness. It is much more suitable for the poor and ill-nourished than tea is, and when combined with plenty of milk, as *café au lait*, it furnishes a good deal of food, a pint and three-quarters of this representing five or six ounces of solid matter, of which about one and three quarter ounces are nitrogenous. Since it is much less astringent than tea, and stimulating instead of depressing to the circulation, it is more suited for use with or after a meal.

Chicory is often mixed with coffee, especially abroad, and is sometimes, as in some parts of Germany, taken alone. It is the roasted root of the wild succory or endive, and contains about twenty-five per cent. of watery bitter extractive matter. It adds, when mixed with coffee in small proportion, a bitterish taste, which is pleasant to most people, and it tends to counteract the constipating influence of coffee. There is no particular virtue or harm in this addition, and it may be left to taste to decide on its desirability.

Roasted *acorns* have been used as a cheap substitute for coffee, and there does not appear to be any objection on physiological grounds.

We have a far more important beverage in *cocoa*, which is derived from the seeds of the *Theobroma Cacao*, a plant indigenous to South America, Mexico, and the West Indies. It was introduced into Europe by the Spaniards, about the year 1520, and to England about the same time as tea and coffee, being sold in London coffee-houses about 1652. The constituents of cocoa are (1) volatile

oil, giving the special flavour; (2) Thebromin, which is allied to thein, but not quite identical with it; (3) fatty matter, called cacao butter, forming fifty per cent. of the nut; (4) albuminous matter, forming twenty per cent.; and (5) starch, ten per cent. It contains twice as much nitrogenous matter, and twenty-five times as much fatty matter as wheat, but less starch. This analysis refers to the roasted kernels deprived of their husks: if these kernels are roughly crushed they form the variety known as cocoa-nibs. To make flaked cocoa the nibs are ground to powder and this adheres in flakes by its natural oiliness. It is clear that cocoa-nibs contain a very large amount of nourishment, and if the most is to be made of them the grounds should be stirred up and drunk as well as the fluid. The chief objection to this form is the amount of fatty matter, which disagrees with some people. Hence this is often removed to a greater or less extent by the manufacturers, and its place is generally supplied by some form of starch, as a result of which the cocoa thickens when it is boiled. There is no objection to this if wholesome starch is used, but the customer should understand what he is buying. Thick cocoa is food as well as drink, and this should be recollected in arranging for a meal. On the whole, the thin or unstarched varieties of cocoa are more generally suitable than the thick sorts, and less likely to disagree. The action of cocoa on the nervous system seems to be less intense than that of tea or coffee, and this is a point in its favour. As a harvest drink the addition of some cocoa to the oatmeal and water is generally appreciated; the whole should be boiled together.

Milk is the beverage with which we were all once acquainted, and is both food and drink. It is possible to live on milk alone, since it supplies all that is required for the growth and repair of the body. One pint contains about two ounces of water-free food, and, therefore, an adult man with ordinary work would require rather more than

eleven pints a-day to supply him with all the nourishment he needs. This is too much fluid. There are some persons who cannot digest milk in its pure condition, either because it is too quickly curdled, or because they take it on the top of a hearty meal when the stomach already has more to digest than it can comfortably manage. In some cases it is more easily digested when diluted with an equal quantity of water, or soda-water, or diluted, and then boiled with a very little corn-flour or arrowroot—not enough to make it set on cooling. *Butter-milk* is useful in some cases, and *whey* forms an agreeable drink, and is less likely to cause biliousness. As a rule, I think milk is better avoided as a beverage when animal food is being taken.

There is another kind of fluid provided by nature, which is very useful for quenching thirst, namely, the juice of ripe fruits. These are, of course, not always obtainable in their natural condition, but their juices clarified, and more or less diluted with syrup, are to be had under the style of *fruit syrups*. These are too luscious to be used in their concentrated form, and require dilution with hot or cold water, or with aerated water. When thus diluted they form very agreeable and wholesome drinks to most persons, but often do not agree with those troubled with acidity, and may be a means of introducing excess of hydro-carbonaceous matter into the system. They should, therefore, be taken sparingly. Lime and lemon-juice furnish the blood with necessary elements by which vital action is sustained, and, in the absence of which, scurvy is produced; other vegetables suffice for this purpose. I have tested samples of the lime-juice cordials commonly sold, such as Rose's and the Montserrat, and I find them all free from alcohol, so that they may be taken with confidence on this point.

While speaking of the juice of fruits it would be a great mistake to omit to mention, with the highest approbation, the pure blood of the grape, so well preserved by Mr. Frank Wright. There is a very considerable amount of nour-

ishment in his unfermented wine, and it can be had either in its natural state or sweetened by the addition of 5 per cent of loaf sugar,

The juice of the grape which used to be preserved in a thickened condition by boiling, and still is so preserved in the East, and diluted when required, is now, thanks to modern appliances, preserved in its natural state. It still, however, requires dilution, and in hot weather forms a very agreeable beverage.

As to the various imitations of this and other juices, the less we have to do with them the better. Some of them, no doubt, are perfectly harmless, but it would be much better to sweeten and colour the water ourselves; a little cream of tartar and carmine dissolved in boiling water and sweetened will furnish us with all we require for that purpose, and we can flavour this with essence of lemon, or peppermint, or other flavour, and know what we are taking. If we require a more solid drink, combining nourishment with drink, we can employ thin barley-water as the basis.

In addition to these we have all kinds of artificial *mineral waters*. Some of these, such as soda water, seltzer water, and Apollinaris water, consist chiefly or altogether of water charged with excess of carbonic acid, and sometimes contain an insignificant quantity of saline substances. The aerated water produced in the seltzogene is exactly the same as soda water. These are very harmless if they are not taken too rapidly, or in too great quantity, so as to distend the stomach with carbonic acid gas. The stronger mineral waters are not suitable for dietetic purposes in health.

Finally, there are at the present time several claimants for popular approval in the shape of bottled drinks, such as Zoedone, Hedozone, Sparkling Hygeia, Phosphade, Vin Santé, and many others. These have all a strong family likeness, being aerated acidulated drinks containing various amounts of soluble hypophosphites or phosphates, including those of iron and lime. There is reason to believe those containing iron may be useful

in certain anæmic conditions of the system, and there can be no objection to their occasional use by those who like them; but I cannot say that I consider such drinks, especially the more highly medicated ones, as suitable for habitual use. The constant use of ferruginous mineral waters has been found to derange the digestion, and to bring about the state of anæmia and weakness which their temporary use so much benefits.

In addition to these we have the old-fashioned lemonade, and ginger beer old and new, that is, the old fermented ginger beer, which contains a small amount of alcohol, and the new, an aerated drink, entirely free from it. We have also ginger ale, orange champagne, Larmuth's drinks, and several slightly bitter drinks, which remind one of water drunk out of a beery glass. All these are very innocent in themselves, although I can well imagine that the latter may revive a taste for a stronger and more palatable beverage which we should much deplore.

What, after all, then, is the best substitute for alcoholic liquors? I do not refer to substitutes for alcohol as a medicine, but as a beverage. Strictly speaking, since these drinks are only injurious, there can be no good substitute for them. If anything would do just what alcohol does, it would be just as bad. Yet ale and beer, which have long been taken with the meals, are often dreadfully missed. This is the result of habit, and such a bondage of the appetite is a slavery against which a man does well to rebel, apart from all question of the injury done by alcohol. Resolution must be summoned to give reason the mastery of appetite, for "the impulse of appetite is slavery; obedience to self-prescribed law alone is liberty." If the will and moral power are so weak that the attempt to obtain freedom will not be made without something to drink besides pure water, coffee or thin cocoa are the best alternatives; milk and soda water may be taken, or fruit syrups diluted with water, or hop tea, or some of the bitter manufactured drinks; but

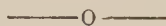
the sooner these drinks—and, indeed, all the rest—can be dispensed with, the better; and I should have more confidence in the teetotal stability of those who have recovered their natural relish for cold water. In case of fatigue or pressure of bodily or mental work the best substitute for alcohol as a stimulant is either hot coffee or cocoa, or Liebig's extract of meat in hot water.

But after wandering through all the list of unalcoholic beverages, an unviolated taste will return with fresh zest to the beverage which Nature provides, and which long ages since the omnipotent and all-bountiful One prepared for those beings which He made in His own image, and caused to flow from Horeb's rocky side, as the fittest thing to drink with angels' food. Happy is the man of simple habits

and simple tastes who can appreciate a draught from the crystal spring. The virtue which abides therein is not often sufficiently valued. There is abundant evidence that life, in the absence of food, can be sustained far longer when water is taken than without it. Those only, perhaps, realise its value who are, for a time, unable to get it. The great secret of healthy dieting is to eat when we are hungry and to drink when we are thirsty, and he who is thirsty will not fail to appreciate the thirst-quenching and refreshing properties of cold water. Those who despise it may well excite our pity.

“'Tis a little thing

To give a cup of water; yet its draught
Of cool refreshment, drain'd by fevered lips,
May give a shock of pleasure to the frame
More exquisite than when Nectarean juice
Renews the life of joy in happiest hours.”



THE INTEMPERANCE OF PARENTS A PREDISPOSING CAUSE OF IMBECILITY IN CHILDREN.*

By FLETCHER BEACH, M.B., M.R.C.P., *Medical Superintendent of the Darenth Asylum, Kent.*

THE part which alcohol plays in the production of insanity has for some time past occupied the attention of the medical profession, and has been the subject of discussion at the Medico-Psychological Association, and the Medico-Psychological Branch of the British Medical Association. Three years ago, Dr. Shuttleworth, of the Royal Albert Asylum, Lancaster, read a paper on “Intemperance as a Cause of Idiocy,” in which many important facts were set forth, and I should not have attempted to touch the subject were it not that my experience has led me to assign to parental intemperance a more important part in the production of imbecility than does the author of that paper. I have been led to this

opinion, I think, from the fact that my patients are drawn from a different class of society from those with whom he, as well as other superintendents of public asylums for imbecile children in the United Kingdom are brought in contact. In these the patients are chiefly drawn from the middle classes, although some of the institutions contain a small proportion of the pauper element: but in the asylum over which I have the honour to preside, though there is a sprinkling of children of respectable parents, yet by far the largest proportion are drawn from the lowest classes of society, in whom, as is well known, intemperate habits largely prevail. In addition, I have no doubt there is less difficulty in arriving at the truth. By the middle classes intemperance is considered a mark of social degradation, and its presence in the family

* Read in the Psychology Section, British Medical Association, Cambridge, August 11, 1880.

will not be confessed; but the lower classes hold no such opinion, and a woman of that class will not only tell me that her husband is a drunken man, but will go on to say that he ill-uses her as well. I have found it necessary, in considering the subject of my paper, to treat it chiefly from the statistical point of view, and unavoidably so, for from statistics alone can a true conclusion be drawn. I am aware that an opinion exists that figures will prove anything, but I have endeavoured to use them fairly and without bias.

I believe that the first account of the part which parental intemperance plays in the production of imbecility in the offspring is to be found in a "Report on Idiocy made to the Legislature of Massachusetts by the Commissioners appointed to inquire into the condition of Idiots within the Commonwealth," published in 1848 by Dr. Howe, in which, among other causes, intemperance in the parents is alluded to. From this report we learn that of 300 idiots, 145 are reported as children of habitual drunkards. This, no doubt, is much too high a standard, and is so considered by the superintendents of American asylums for imbecile children, who are aware of the means by which such a result was obtained. In 1856 a Commission on Idiocy was appointed by the State of Connecticut, and the commissioners state that of 235 cases in which the habits of the parents are ascertained 76 were due to intemperance, an average of 32.3 per cent. Very lately the Association of Medical Officers of American Institutions for idiotic and feeble-minded persons have been examining into the antecedents of 100 idiotic and feeble-minded children, with the result that in 38 parental intemperance is given as an accessory, main, direct, or indirect cause, an average of 38 per cent. For the last five years I have made a point of inquiring of the friends of my patients, from whom alone I am able to get the history of the case, whether intemperate habits existed in the parents or not, and I find that

of 430 cases whose histories have been obtained, 136 had intemperate parents, an average of 31.6 per cent. In two other cases, though the parents were sober, the grandparents were intemperate. Altogether, 880 patients have come under my observation; so that the cases in whom parental intemperance has been ascertained will be 15.4 per cent. of the entire number. Practically, I have histories of half the number of cases that have come under my treatment, and since an average of 31.6 per cent obtains in these, I think I may fairly hold that the same average will exist in the remainder. This is a much larger average than that obtained by Dr. Shuttleworth, who out of 300 cases could trace a history of intemperance in only 16, an average of 5.3 per cent. On going further into the question, I find that of the 138 patients 72 are males and 66 females, the number in each sex being nearly equal. Classifying these, I find that with reference to the 72 males 47 are congenital and 25 acquired cases; of the 66 females, 44 are of congenital and 22 acquired origin, so that the number of congenital and acquired cases in each sex nearly correspond. Altogether, 91 patients are due to a congenital and 45 an acquired cause, those of the latter class being half the number of the former. Proceeding further, I found that in all the 47 male congenital cases the fathers were intemperate. Of the 25 acquired cases, 23 had intemperate fathers, and one an intemperate mother; in the remaining case the father was sober, but the paternal grandfather was intemperate. Of the 44 congenital females, 42 had intemperate fathers, one an intemperate mother; and in one the father and mother were both intemperate. Twenty-one of the 22 acquired females had intemperate fathers, the twenty-second having a paternal grandfather intemperate. It appears, then, that intemperance is far more common on the male than the female side. On inquiring into the amount of intemperance present, the following facts were elicited:—45 of the 47 intemperate fathers of

the congenital males were occasional drunkards, one was a hard drinker and one died of delirium tremens. With reference to the 23 intemperate fathers of the 25 acquired males, 20 were occasional drunkards, one was a hard drinker, one died of delirium tremens, and one of the effects of drink. As to the remaining cases, in one the mother was an occasional drunkard, in the other the paternal grandfather was very intemperate. Of the 42 intemperate fathers of the congenital females, 38 were occasional drunkards, 2 were very intemperate, 2 had had attacks of delirium tremens, and one of them had died of it. Of the two remaining cases, in one the mother was drunk during the whole period of pregnancy, and in the other, in which the father and mother were both intemperate, the father is said to have become insane from the effects of drink. As to the 21 intemperate fathers of the 22 acquired female cases, 18 were occasional drinkers, two were very intemperate, and one was a heavy drinker. The paternal grandfather of the remaining case was very intemperate. From these figures we find that all degrees of intemperance, from occasional drunkenness up to delirium tremens, were present.

In a few cases it was found that drunkenness was a family failing. Thus in three cases the father's side of the family are described as intemperate, and in one of these the male side had been intemperate for many generations. In one case only was the mother's side given to drink, but here the result was very marked, for not only was the patient in the asylum an imbecile but her two cousins were imbecile also. Isolated cases of intemperance among relations of the family were much more common. Thus in four cases the paternal grandfathers were drunkards; in one case the maternal grandfather, in two cases the grandfathers and grandmothers both drank. In one case a paternal uncle, in one a paternal aunt, and in one a maternal aunt were intemperate. Curiously enough, in some cases the bad effects fell on the grandchildren only; the fathers of two patients were

sober men, but the paternal grandfathers were intemperate. Some difficulty was experienced in attempting to ascertain the part which parental intemperance alone played, or appeared to play, in the production of imbecility, for in many cases intemperance was accompanied with hereditary predisposition and other predisposing causes; but the following classification was at length adopted:—(1) Intemperance alone apparently the only predisposing cause; (2) Intemperance accompanied with fright; (3) Intemperance associated with phthisis; (4) Intemperance complicated by insanity or imbecility; (5) Intemperance in conjunction with neuroses of different kinds; (6) Intemperance associated with insanity or neuroses and phthisis; (7) Intemperance complicated by several predisposing causes. On taking these classes in the above order, it was found that 27 cases were included in the first, 16 in the second, 22 in the third, 15 in the fourth, 17 in the fifth, 26 in the sixth, and 15 in the seventh class. Of the 27 patients in whom intemperance appeared to play the most important part, 13 were males and 14 females. Of the males six were of congenital and seven acquired origin; of the females, nine were due to a congenital, and five an acquired cause. It was found in some of these cases there was also a history of ill-usage, fretting, worry, or desertion of the mother, and in two cases premature labour; but there was no doubt that such a condition of the mother was directly due to the father's intemperance. The next class is that of intemperance accompanied with fright of the mother, the fright not being directly due to the father's intemperance. Of the 16 patients in this class, the males, amounting to four, were all of congenital origin; of the females, 11 were congenital cases, and one was an acquired one. Passing on to the third class, comprising 22 patients, it was found that of the males nine were due to a congenital and four an acquired cause; of the females, five were congenital, and four acquired cases. In 10 of these patients fright, worry, or anxiety of

the mother not due to the father's intemperance was also present; in three cases fretting, illusage, and trouble directly due to it existed. In the fourth class, containing 15 patients, five of the males were congenital cases, and one was an acquired one; of the females, seven were congenital and two of acquired origin. In six of these cases there was also a history of fright or worry not due to the father's intemperance; in two cases worry and illusage of the mother was directly due to it. In the next class, of the 17 cases 12 were congenital males and four acquired males; two were congenital females, and three acquired females. In this case, fright, worry, or anxiety was present in six mothers of the patients, but not due to the fathers' drinking habits; in one case it was so due. In the sixth class, comprising 26 cases, 12 of the males were due to congenital and six to an acquired cause; four of the females were congenital and four acquired cases. Of the patients in this class, fright or worry was present in 11 mothers, such a condition not being due to the fathers' habits; in two cases trouble or worry was directly traced to them. In the seventh and last class of 15 cases, three were congenital males, and three acquired males; six were congenital females, and three acquired females. Fright was present in one mother, and trouble, anxiety, or worry in four. In two cases illusage was noted; in these two the illusage was directly due to the fathers' intemperance; in the other five it was not so. In this last class, the intemperance of the father was combined with insanity, imbecility, neuroses of different kinds, phthisis, consanguinity (three cases), intemperance, syphilis (one case), and cancer (one case) in his relatives. It should be mentioned that the insanity, imbecility, neuroses, phthisis, &c., present and complicating intemperance in all the classes were in many cases far removed from the patient, existing in his grandparents, uncles, aunts, and cousins. To make these statistics clear, I have drawn up the following table:—

Intemperance alone apparently the only predisposing cause.

	Males.	Females.	Total.
(c) ...	6	9	15
(a) ...	7	5	12
	—	—	—
	13	14	27

Intemperance accompanied with fright.

	Males.	Females.	Total.
(c) ...	4	11	15
(a) ...	0	1	1
	—	—	—
	4	12	16

Intemperance associated with phthisis.

	Males.	Females.	Total.
(c) ...	9	5	14
(a) ...	4	4	8
	—	—	—
	13	9	22

In three cases fretting, illusage, or trouble, due to fathers' intemperance.

In ten of these cases fright, worry, trouble or accident not due to fathers' intemperance.

Intemperance complicated by insanity or imbecility.

	Males.	Females.	Total.
(c) ...	5	7	12
(a) ...	1	2	3
	—	—	—
	6	9	15

In two of these cases worry or illusage, with bad living, due to father's intemperance.

In six of these cases fright or worry, not due to fathers' intemperance.

Intemperance in connection with neuroses of different kinds.

	Males.	Females.	Total.
(c) ...	8	2	10
(a) ...	4	3	7
	—	—	—
	12	5	17

In one of these cases there was illusage due to fathers' intemperance.

In six of these cases fright, worry, or fretting, not due to fathers' intemperance.

Intemperance associated with insanity or neurosis and phthisis.

	Males.	Females.	Total.
(c) ...	12	4	16
(a) ...	6	4	10
	—	—	—
	18	8	26

In two of these cases trouble or anxiety, due to fathers' intemperance.

In nine of these cases fright or worry, not due to fathers' intemperance.

Intemperance complicated by several predisposing causes.

	Males.	Females.	Total.
(c) ...	3 ...	6 ...	9
(a) ...	3 ...	3 ...	6
	<hr/> 6 ...	<hr/> 9 ...	<hr/> 15

In two of these cases there was ill-usage, due to fathers' intemperance.

In five of these cases, fright, trouble, anxiety, or worry, not due to fathers' intemperance.

From this table it appears that, excluding the first two classes, 10 were also complicated with fretting, worry, or ill-usage of the mother, due to the father's intemperance; while in 36 cases, fright, worry, trouble, or anxiety on her part could be traced to it.

As to the type of cases produced, I find that of the 47 congenital males, 24 are of low, 22 medium, and 1 high type. Of the 25 acquired males, 10 are low, 11 medium, and 4 high in type; of these 4, 3 have recovered. No recoveries have, of course, taken place in the congenital cases. The low type cases include imbeciles of the Mongolian type, cretins, microcephalous, and hydrocephalous cases. No especial type was found to be due to intemperance during connection, for though in two cases of cretinism such a history was given, on the other hand, in four cases it was denied. Such a condition was present in a few low-type cases, which presented no particular features, but in all the rest it was absent.

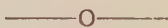
Some interesting facts presented themselves while going through the histories of the patients. In seven cases they were the only children, and one of them was born after 14 years' marriage. In one case the mother was married 10 years before the birth of the child; in another the mother had only two children during 21 years, and both were imbecile. Another point to which attention was directed was the number of patients in whom convulsions or epilepsy, com-

plicating the imbecility, was present, or had existed, and it was found that in 47 of the 91 congenital cases, and 40 of the 47 acquired cases, such a complication had occurred, or was present at the time of admission. A comparison was then instituted between these patients and those in whom there was no history of intemperance, with this result:—In 85 of the 160 congenital and 95 of the 132 acquired cases remaining of the 430 whose histories could be ascertained, the complication above mentioned existed. The comparison shows that though the number of cases of imbecility, complicated by convulsions or epilepsy, in the latter class are absolutely larger, being more than double those of the former, yet the ratio of complicated to uncomplicated cases is much the same in both. In the former class we have 47 out of 91 congenital patients; in the latter 85 out of 166. In the former class, 40 out of 47 acquired cases; in the latter, 95 out of 132. The result is accounted for, I think, by the fact that, in a large proportion of cases, insanity, imbecility, or epilepsy, existed in the parents or relations of the children belonging to the latter class (where there was no parental intemperance), and so an unstable brain was produced. In the congenital cases it was found that the convulsions came on chiefly previously to or at the time of teething, the irritation of the tooth pressing on the gum being apparently sufficient to cause such a result. In the patients belonging to the acquired class, however, though the convulsions were in many cases so produced, yet by far the larger number of them were due to other causes, such as sunstroke, blows on the head or back, epidemic diseases, fright, &c., to which the child was subject at a later age. One of the congenital cases was especially interesting. Five weeks after the patient's birth the mother was suckling the child, and fretting at the time, in consequence of the intemperate habits of the husband. The child, while at the breast, had a fit, and convulsions have from time to

time occurred ever since. The fact that an unstable brain was occasionally present in the other children of the family was also noticed. In 35 cases, sometimes one and sometimes as many as seven children had died of convulsions. In six cases, other children—as many as six in the family of one patient—had died of convulsions. In six cases, other children—as many as six in the family of one patient—had had convulsions during teething. In seven cases, the other children were deficient or imbecile; in one, all the children were excitable;

in two, spinal complaints existed; and in one, inflammation of the brain.

To sum up, the opinion which I hold as the result of a careful study of the figures contained in my paper is this:—That parental intemperance alone, in a few cases—27 out of 138,—acts as a main or direct cause; but that, in the great majority of cases, it is only an indirect, accessory, or predisposing one. I do not believe it to be usually the chief cause, but I think it is one which we cannot afford to overlook.



STIMULANTS IN WORKHOUSES.

(From the *Lancet*, Nov. 27.)

WE have another contribution to the elucidation of the difficult question of the therapeutical use of alcohol in workhouses in a report by Mr. Anderson, to the guardians of West Derby, Liverpool, in reference to the patients in Walton workhouse. At the urgent request of many guardians, supported by statistical representations from other unions, Mr. Anderson resolved, in the treatment of hospital cases, to give stimulants only in the most urgent and severe cases. During eight weeks ending November, sixty-three patients died, with an outlay for stimulants of £31 17s. 7d., whereas in 1879, only twenty-three died, with a consumption of alcohol represented by £122 7s. 8½d., and in 1878, twenty-two died, with an outlay of £85 19s. Mr. Anderson thinks these figures show the impolicy of the treatment, and, in particular, expresses his opinion that to withhold stimulants from the sick poor in Liverpool in illness is to prolong their convalescence, owing to the impoverished state in which the majority come into the workhouse. Undoubtedly they must require sustaining and feeding treatment. And Mr. Anderson's figures may have some interest. But we cannot attach much

importance to them in the absence of many more details than are covered by a mere statement of the number of deaths and the bill for alcohol. This is obviously so bare a statement as to be without scientific value. What were the cases? and How far do the cases of one year bear comparison with those of another? What was the state of the weather? What of the employment of the people? What was the prevalent character of disease in Liverpool generally at each period? What food was given in the place of stimulants? &c. These questions and others must be answered before any comparison can be trusted. Mr. Anderson's own figures show that he is hanging too much on this one peg of stimulants. For example, between the years 1878-79 there was a difference of only one death, but there was a difference of £37 in the bill for alcohol. There was one death less in the year 1878, with an expenditure of £85 19s., than in the year 1879, with an expenditure of £122! Clearly we have something more to learn about the mortality in the Walton workhouse than is told us by the bill for stimulants.

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The following letter has been ad-

dressed to the Right Hon. J. G. Dodson, President of the Local Government Board :—

SIR,—At the meeting held on Saturday last, 27th inst., of the council of the British Medical Temperance Association—an association consisting of a large number of medical men practising the profession of medicine in the United Kingdom—I was requested, as their President, to ask if, through the Local Government Board, a return of statement of facts could be had relative to the subjoined extract in the *Times* of November 19th :—

“At a meeting of the West Derby (Liverpool) guardians on Wednesday, the following report from Dr. Anderson, medical officer of the Walton workhouse, was read : ‘At the urgent request of many guardians, supported by statistical returns from other unions, I was induced to put to practical test, as an experimental trial, the treatment of hospital patients with a minimum amount of alcoholic stimulants—that is, to order them only in the most urgent and severe cases. This system was adopted on September 7th, and continued until the present time. During the eight weeks ending November 2nd I find the total consumption of stimulants amounts to £31 17s. 7d., while the number of deaths during the same period had increased to sixty-three. During the corresponding period last year twenty-three deaths only occurred, with a consumption representing £122 7s. 8½d., while 1878 is represented by twenty-two deaths and £85 19s. in stimulants. In the face of such figures, I feel certain the guardians will agree with me that it would be impolitic to continue the experiment. I would therefore beg to direct the attention of the guardians to the prolonged convalescence attending the non-stimulating treatment. Of this there is abundant evidence in the overcrowded condition of the hospitals with acute cases. The results of the experiment prove to me conclusively that paupers suffering from acute diseases, admitted here in a half-starved and impoverished condition (the physical state in which the majority are received), recover in a

much shorter period when stimulants are freely but judiciously employed as an important part of the treatment.”

From this extract it appears that Dr. Anderson, the medical officer of the Walton workhouse of the West Derby Union, has expressed an opinion that, owing to a reduction in the employment of alcoholic stimulants for the patients under his care, during a period of two months, a notable increase of mortality in some cases, and a prolonged convalescence in other cases, has been experienced.

This opinion is so opposed to other opinions on the same subject that have come under the cognisance of the members of this Council, that they feel it essential in the public interest that all the facts on which the said opinion of Dr. Anderson is based should be fully known and recorded.

The following are the necessary facts that require to be known :—

1. What was the nature of the disease in every case that terminated fatally during the time when the reduced amount of alcohol was being used by Dr. Anderson ?

2. What were the ages, sex, and conditions of the persons who died under these circumstances ?

3. What was the actual amount of alcohol daily administered to those who died under the circumstances named, and in what form of alcoholic stimulant was the alcohol supplied to them ?

4. What has been the precise rate of mortality per month in relation to the number of patients during the past five years ?

5. What has been the expenditure for alcoholic stimulants per head, per month, for the hospital patients of the workhouse during the past five years ?

6. What was the expenditure for alcoholic stimulants per head during the two months in which the quantity of alcohol was reduced, and in which the excessive mortality supposed to follow from the reduction of stimulants occurred ?

7. What length of time was each patient who died during the reduced administration of alcoholic stimulants under medical treatment ?

8. What was the precise nature of the disease, and what was the condition of the patient in each case where the convalescence was prolonged by the reduction of alcohol, and how long was each such case under treatment?

9. What was the exact amount of alcoholic stimulant supplied to each case of prolonged convalescence as compared with the amount that would ordinarily have been supplied?

10. How many days in each case was the convalescence prolonged by the reduction of the stimulant?

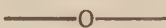
The Medical Temperance Association, consisting of practitioners who abstain from alcoholic drinks as beverages, has no rule which prevents its members from judiciously employ-

ing alcohol for medicinal purposes. On the contrary, it wishes to know everything that can be learned as to the actual value of alcoholic stimulants in disease, in order that its own action may be unprejudiced and its influence be devoted to the establishment of the truth, whatever that may be. In this spirit it most respectfully approaches you on the important subject above-stated, in the hope that, under the direction of your authority, the simple and easily-rendered facts asked for may be obtained.

I remain, Sir,

Your most obedient servant,
BENJAMIN WARD RICHARDSON,
M.D., F.R.S.

12, Hinde Street, W., Nov. 30, 1880.



THE RAPID ACTION OF ALCOHOL.

DR. ALFRED J. H. CRESPI has favoured us with a letter on this subject, in which he says:—

When, some years ago, a letter from Dr. Edmunds informed me that the tinctures at the Temperance Hospital were prepared without any spirit of wine I fear I was wicked enough to smile. I could admit the great importance of not permitting alcohol, in any form or amount, to be admitted to the inmates of that institution, so that no objection could be urged by enemies of the temperance cause against the statistics which it was intended after a time to publish, but my scepticism was aroused by Dr. Edmunds' statement that the alcohol in ordinary tinctures was in itself often injurious, though I remember that I had heard the same objection urged by medical men whose views on temperance had little in common with those of this able, thoughtful, and accomplished physician. Time went on, and, according to my wont, I continued to prescribe tinctures and pharmacopœial spirits with no sparing hand; their small bulk, and palatableness, and the great length of

time they can be kept unchanged in warm rooms and in hot weather, seemed to me great recommendations. One so seldom meets with abstainers in practice, and so many people are accustomed to take liberally of what some of my clerical friends call one of God's good creatures, that my attention was not specially directed to the imprudence of such remedies. Well, a year or two ago some casual complaint from a patient startled me: the medicine, she said, had been too strong; it had made her giddy, and got into her head. Since then I have paid particular attention to the action of spirituous tinctures, and found that young girls, and particularly abstemious and weakly people advanced in life, were very sensitive to even small doses of alcoholic tinctures, essences, and spirits, and I have diminished the doses accordingly. Well, early one morning, last August, I had a few grapes—a pound or two—those tasteless bladders of water and suds we call hothouse grapes, and persuade ourselves are nicer than really ripe, fleshy, full-flavoured Peninsular and German grapes. In two hours or so I

had an uncomfortable attack of indigestion, which got worse as the day went on: now, on shore, this is a very rare occurrence with me, so rare that I can literally, and without inconvenience, eat anything, from half-a-pound of chocolate creams to a couple of pounds of figs, or half-a-pound of almonds; but at sea, or on a small island, I suffer much from indigestion. Well, I had a long round to go that afternoon, and many patients to visit, and feeling rather worse, if anything, after an early dinner, just before starting I poured a few drops of essence of cinnamon into a wineglassful of water, and drank it. Cinnamon is reputed good for indigestion, by the way. I could not have taken more than six or seven drops, less probably. Now, if essence of cinnamon is prepared like the officinal essences, five drops would represent less than four of absolute alcohol, hardly half the dose of alcohol I have prescribed hundreds of times to be taken three or four times a-day, in the shape of tincture or spirit of course.

To my astonishment, in three minutes the essence of cinnamon had coursed through me, and my face tingled again, while my hands were unpleasantly warm: in turning to a mirror I found my cheeks crimson, and though I immediately set off on my round I continued to feel hot and excited, and very far from comfortable, for half-an-hour, while, though the day was hot enough, every breeze felt unpleasantly cold. Unfortunately, too, my indigestion was none the better for the remedy. Now here is the point to which I wish to direct attention. I am a lifelong abstainer, and though I have tasted wines it is years since: moreover, singular though it will appear to people who know what good things medicines are, I cannot call to mind that I had ever before tasted one of the essences or spirits of the pharmacopœia. I do not like to deprive my patients of such valuable remedies, and the less I take the more for them. I was probably, therefore, peculiarly susceptible to the action of alcohol, and the result, believe me, astonished me; not I

mean that my indigestion was not cured, for we all know that medicines sometimes fail to do good, but that a dose of alcohol so small should at once have disagreeably affected me. Many a gentleman who passes for temperate, probably regularly takes more than a thousand times as much in the twenty-four hours. I commend the above facts to my professional brethren, and it will teach them that even small doses of alcoholic tincture may prejudicially affect young girls and sickly and infirm people not used to alcohol. At the time I was in good health; but though it does not at any time take much to overdo me, I have not kept my bed a day for sixteen years, and then only for two days. I have very few blood relations living, but they are not peculiarly susceptible to alcohol; one or two, indeed, are able to drink as freely as the generality of men, without apparent inconvenience, so that there is no hereditary intolerance of drugs or alcohol. Dr. Edmunds may depend upon it that I shall not again smile at non-alcoholic tinctures, or deny the prudence of withholding alcohol in every form.

How important it becomes not to prescribe alcohol for the aged and infirm: you will recall to mind those memorable lines in Boswell's *Life of Johnson*, when the latter was very near the end of his pilgrimage: his life had been one long illness, his temptations and trials many, and his surroundings had often been far from good, while the customs of the age permitted, perhaps encouraged, greater license and self-indulgence than are common now. "Then," said Johnson, when his physician had told him that death was near, "I will take no more physic—not even my opiates, for I have prayed that I may render up my soul to God unclouded." In this resolution he persevered, and at the same time used only the weakest kinds of sustenance. Being pressed by Mr. Windham to take somewhat more generous nourishment lest too low a diet should have the very effect he dreaded, by debilitating his mind, he said, "I will take anything but inebriating sustenances." And thus that

great and holy man—for assuredly he was both, despite some warring of the flesh against the spirit—passed away, his mind clear, his heart at rest, the fear of death, which for many years had haunted him, mercifully dispelled at the last, and the peace of God—for which he had yearned so long, prayed so passionately, but, as it seemed, so ineffectually—granted him in large measure, when most needed. Cheerfully and calmly he went to his rest, not soaked by opiates, nor stupefied by alcohol, and we may truly believe that in quiet pastures beside the still waters he has reaped

his reward. It is interesting to remember that at one time he had for many years been a strong enemy of wine, and that he was, in his latter years, loud in his praises of water. "As we drove back to Ashbourne," says Boswell, "Dr. Johnson recommended to me, as he had often done, to drink water only." "For," said he, "you are then sure not to get drunk; whereas if you drink wine you are never sure." And this was not the only matter on which he went far beyond his contemporaries, and far beyond most of ours, too.



ALCOHOL IN ENTERIC FEVER.

DR. JOHN S. BRISTOWE, F.R.C.P., Senior Physician to St. Thomas's Hospital, read a paper on the treatment of enteric fever, on Wednesday, November 10th, at a meeting of the South Metropolitan Branch of the British Medical Association. He was in favour of milk diet, and in regard to alcohol said:—

"It is impossible to discuss the subject of the treatment of fevers without referring to the question of the use of alcohol in relation to them. In the early part of this century, when blood-letting was the fashion of the day, stimulants were seldom employed in the treatment of febrile disorders. Of late years, however, alcohol has not only been regarded by most physicians as an essential element in the treatment of fevers, but by many has been esteemed our sheet-anchor, and has been administered sometimes in appalling quantities. The reason, however, for giving it thus was not simply to obtain its stimulating effect, but in the belief that it was an article of food, and that it was assimilated by the patient at a time when other kinds of food could not be taken or were inadmissible. I see no reason to doubt that alcohol is a food; at any rate it

contains the same elements as starch and sugar, which are undoubted foods; and the experiments of Thudichum and Dupré show that, when once taken into the system, it is in some way used up in the system, and escapes in very minute proportion through the emunctories. But we have, doubtless, many foods that are more valuable as foods than alcohol; and in milk, at any rate, we have one which is generally well suited for invalids. It is rarely necessary, therefore, to have recourse to alcohol as food; and its use in fevers depends mainly on its primary or stimulating—its medicinal—influence. I have never used alcohol indiscriminately in any kinds of fever cases; and, indeed, ever since I have had the care of patients in St. Thomas's Hospital, I have been very sparing in my use of it. In the year 1863, when typhus was prevalent in London, I carried out an experiment, which I never published, and which Dr. Murchison carried out independently on a larger scale, a few years later at the Fever Hospital, with similar results to those I had also obtained. I treated, without selecting them, half my typhus patients with alcohol from the beginning to the end, half my typhus patients without alcohol, also

from the beginning to the end, and found no appreciable difference in the result. From that time I have never regarded alcohol as the essential item in the treatment of either typhus or enteric fever; and I have seldom given it, unless special circumstances indicated to my mind the need of stimulation. Many typhoid cases, and even severe cases, have recovered under my care without having tasted a drop of alcohol. Many no doubt have had it; but the circumstances under which I have given it have been: the presence of extreme debility, indicated by a feeble heart and rapid pulse; the supervention of typhoid symptoms; the occurrence of pulmonary complications; and the debility of prolonged convalescence. My friend Dr. Ord, in an interesting paper on Enteric Fever, in the eighth volume of the 'St. Thomas's Hospital Reports,' based upon sixty cases (of which twenty-four were my own) received into the hospital from the end of July, 1877, to the end of March, 1878, observes that 'twenty-four patients received no stimulants at all; six only a small quantity during convalescence; eight not any till after the tenth day of admission; twenty-two received them within the first ten days of stay in the hospital, or while the fever was in activity, but very few indeed received them till after the end of the first week's illness.' 'The quantity of stimulants varied from a glass of wine or a glass of beer up to sixteen ounces of wine daily in one case, and eight ounces of brandy in another.' Of these cases, eight were fatal, the mortality being at the rate of 13'33 per cent. The remarks above made, while they tend, on the one hand, to show that alcohol is less valuable than many persons suppose in the treatment of fever, tend, on the other hand, to demonstrate that alcohol is not injurious in fevers. Indeed, I

never recollect to have seen a case in which, even under physicians who have used it largely, alcohol has clearly acted injuriously. My main reason for withholding it has not been for the fear of doing mischief, but simply because I have not thought it necessary; and, not finding it necessary, I have allowed economical considerations to weigh with me. I am satisfied that there are many occasions in enteric fever when alcoholic stimulants are of the greatest value; and whoever then neglects to have recourse to them imperils his patient's life."

In the discussion which followed Dr. Bristowe's address few of the speakers spoke on alcohol. Dr. Broadbent would be sorry to be treated in a temperance hospital. Dr. Dow believed alcohol to be of use only in the later stages of typhoid fever. Dr. Norman Kerr admitted he had seen cases that in his opinion required some stimulant. He believed he had seen alcohol reduce tissue waste when that was so excessive as to threaten a fatal termination, and avert collapse when that appeared imminent. But even when alcohol was indicated, the danger of reaction was so great that the remedy was so apt to become worse than the disease, that the administration of intoxicants demanded due deliberation and close watching. When such could be procured, he preferred digitalis and ammonia, flying sinapisms, and other non-alcoholic stimulants. Where alcohol was prescribed it ought always to be discontinued the moment the occasion for its use had passed. When he had suffered from enteric fever himself he took no alcohol, but drank very freely of water and milk. Dr. Collie, of Homerton Fever Hospital would, give stimulants of the stronger kinds to those accustomed to drink them in health, and to others claret and the lighter wines.

Notes and Extracts.

A DUKE AMONGST THE DOCTORS.—The Duke of Northumberland delivered an address at the opening of the "Newcastle College of Medicine, in connection with the Durham University," in October last, when he recommended his hearers to be patient of new ideas in regard to medical treatment, and told them "That those who advocate the exhibition of alcoholic compounds now, and laugh to scorn the non-alcoholists, will, in a succeeding generation, be as much held up to ridicule as the Sangrados of the past."

TEMPERANCE AMONGST NURSES.—In the Worcester Institution for supplying trained nurses, one of the regulations for nurses and probationers is as follows:—"They shall not take wine or spirits unless ordered to do so by a medical attendant. And with a view to encourage total abstinence, those nurses and probationers who are willing to bind themselves to abstain entirely from alcoholic beverages (except when ordered as above) shall receive an allowance in money from the funds of the institution not exceeding 1s. 6d. per week in lieu thereof, both while attending cases and while unemployed at the Home."

AN UNPROVED STATEMENT.—Among the answers to correspondents in a recent issue of the *British Medical Journal* is the following:—"Mr. Folker (Hanley),—The statement that teetotalers would rather let patients die than break their teetotalism is an extraordinary one. We have never heard of such an incident, and we are inclined to doubt whether the statement has any foundation." It appears that Mr. Folker recently gave public utterance to the above accusation against total abstainers, when relating the case of a girl on whom he had operated for a diseased knee-joint, and to whom he had given very large doses of spirits. Several correspondents of the local newspapers called on Mr. Folker for proof. Hence, we infer, Mr. Folker was speaking without the book, and wrote to the

British Medical Journal for confirmation of his assertion, which still remains unproved.

ALCOHOLIC SOLUTIONS OF PEPSIN.—M. Petit (*Journal de Thérapeutique*, June and July, 1880) has made a series of careful researches on pepsin which confirm the conclusions previously arrived at by Professor Liebreich, of Berlin, on the value of slightly alcoholised glycerine extracts of pepsin, such as that which is now well known in medicine as Liebreich's pepsin-essenz. The value of pepsin, he points out, depends upon its power, not only of dissolving fibrine, but of transforming it into peptones; and a slightly alcoholised solution not only preserves its activity permanently, but its efficiency is in no way interfered with, provided its alcoholic strength, when diluted in the stomach, does not exceed 5 per cent.—*British Medical Journal*.

STIMULANTS IN IRISH WORKHOUSES.—The Cork Board of Guardians recently requested the Local Government Board to sanction an arrangement by which all stimulants used in the workhouse hospitals might be regarded as drugs, be placed in charge of the workhouse apothecary for administration under the orders of the medical officers, and be charged like other medicines on the Parliamentary grant. In reply, the Local Government Board now state that they are not prepared to acquiesce in the proposal that the stimulants used in the workhouse be included in the list of medicines provided for the establishment. The issue of stimulants to pauper inmates of the workhouses, they remark, is already restricted by the regulation (Article 20) to cases in which the medical officer of the workhouse may give directions in writing for their use in individual cases. The guardians are also requested to bear in mind that no part of the cost of stimulants, such as wines and spirits, can be defrayed out of the Parliamentary grant for medical purposes.—*British Medical Journal*.

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Original Contributions.

ALCOHOLIC DRINKS NOT NECESSARIES OF LIFE,
AND OUGHT NOT TO BE TAKEN FOR DAILY USE.*

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President of Council of the British Medical Association.

I HAVE undertaken to prove two propositions, which have much importance in connection with the subject of Temperance. They are not new ; they have been frequently brought forward, and are considered to be fully proved by unprejudiced scientific investigators. But their truth is denied by interested observers, who do not like their personal application, and who refuse to look at the facts by which the propositions are supported. They are like the men of pseudo-science of Galileo's time, who, when they were invited to look at Jupiter's satellites, shut their eyes, and then declared that they could not see the moons. These men see, however, that if the propositions I submit to you are thoroughly established in the popular mind, they would do much to overthrow the throne of drunkenness and vice, and therefore of that source from whence their employers draw a great portion of their revenues. The great men who hold their sway by means of intoxicating liquor, have scientific men deeply skilled in chemistry and physiology attached to their court, who, like Galileo's monks, are blind to the facts which are opposed to their interests, and naturally leave the bearing of those facts out of the problem.

If the propositions which I now submit to you, together with the evidence which supports them, could be thoroughly popularised, and become well understood by the public, the result

* Read at a meeting of the British Women's Temperance Association, February 24, 1881.

would tend to hasten the time when Great Britain would be a sober nation; when the judgment of her great men would be guided by strictly righteous motives, and her women cleared from the stain which rests upon their characters. The women of England now furnish a large part of the contingent of drunkards who are committed every day to the care of prison warders, and also of those who are made to pay a fine in the police courts of our country for some offence, of which drunkenness forms a part of the charge which is made against them. The women of England are in a great measure responsible for these results. They not only provide for the manufacture of the army of drunkards which, day by day, is recruited from the moderate drinking section of the people, but they also assist to provide a class of persons who, from the very nature of things, are so built up that they must become drunkards in spite of themselves, unless they keep away from all contact with strong drink. Those who have had the misfortune to be the offspring of parents under the influence of alcohol, can only be kept from the drunkard's fate by a life-long abstinence from all intoxicating liquors. It is comparatively easy to check this when the suspicions to drunken tendencies show themselves in the child of parents who have not themselves transgressed. I say comparatively easy; for those only who have tried to check the downward career of any drunkard—those who have tried to rescue him from his fate—know how hard is the task which they have undertaken. But let that drunkard be the child of a man or woman who has allowed the appetite to be their master, and then it will be easier for a camel to go through the eye of a needle than to rescue that individual from his ultimate doom, unless he can be persuaded to be once and for ever a total abstainer. Without the aid of women it is quite out of the power of man to bring about the result. There is not only the present temptation, but there is the growing fruits of hereditary tendencies, which are day by day becoming more marked in their results, and more dreadful in their consequences. You ask the question as to how the great work is to be performed? How can hereditary tendencies as well as present tastes be got rid of? I answer, By thoroughly popularising the propositions which I submit to you to-day, by teaching our little ones in their early life what is right upon this matter by making the propositions themselves articles of faith in the nursery, and by the women of England determining that the children they have borne, or which they have to educate, shall be thoroughly imbued with the maxims I wish to inculcate; that to depart from them would be something worse than a crime. These maxims are simple, they are easily understood, their acceptance by the masses would go far to alter those

social customs which are the bane of the poor man, the scourge and the curse of the rich. The propositions are (1) That alcoholic drinks are not necessities of life; (2) That they are injurious if habitually taken for daily use; and I would also add a third, (3) That disease may be treated in a great majority of cases more successfully by not using them as remedies, and then if not so frequently used, the stain which is now sought to be cast upon the doctor for having insisted upon their necessity could not be continued. It has been held by most people that alcoholic drinks, like bread, meat, and vegetables, are real necessities of life. This idea is still maintained by large masses of people: they think that they must form a part of the midday and evening meal, and that those people who put them aside run the risk of suffering from mental and muscular damage. It is considered that muscular and mental forces are brought into being and then strengthened by their daily employment. This was thought to be scientific teaching fifty years ago. It is yet strongly insisted upon by most persons interested in the trade and manufacture of alcoholic drinks, and who will ignore the facts collated by my great namesake and teacher, W. B. Carpenter. It is still feebly uttered by the scientific adherents of the manufacturer. Women, by the support they give to the dogma, have encouraged it by instilling a belief of its truth into the minds of the boys and girls who have been naturally left to their care in the first years of their life. The establishment of this article of belief in the minds of young people has been a great impediment to the formation of habits of temperance, and the promotion of those good works of which temperance is but a part. I hail therefore the establishment of the British Women's Temperance Association with the greatest satisfaction, as being a necessary step in the right direction. It is one which the friends of temperance must especially promote. Without the aid of women generally we should be quite unable to get rid of those articles of belief which are even now instilled into the minds of the young, as soon almost as they can talk. The dogma that father's beer or mother's gin is as necessary to them as meat, and of more consequence by far than bread and milk and vegetables, is yet an established article of faith. Some at any rate of all classes of society still think that daily life cannot be endured without the daily portion of beer, or wine, or spirit, and that no festive event can be celebrated with propriety, unless there is alcoholic liquor of some kind in abundance on the table.

I shall try to avoid the ground as far as I can which has been already occupied by those who have preceded me in this course of lectures, and shall only recapitulate those points which are necessary to prove the truth of my propositions. You may

perhaps remark that you have already heard the points which I shall adduce. I started, however, by telling you that I was not about to put anything absolutely new before you, but only to reiterate the facts which science teaches us, and to try to put them into popular language.

My first proposition is, that *They are not necessities of life.* It is assumed by a portion of our antagonists that they are necessary, and the result of the assumption is shown in the terrible scenes which have so frequently to be described in our police courts, and the still more agonising results upon the affectionate and very often uncomplaining relatives of the victims. If the proposition could be conceded and recognised as a great fact in the public mind, if it should come to be a sincere article of belief among the masses of the people, a great part of the struggle against intemperance would be gained. The manufacturing interests already are standing aghast at this teaching, and are trying by scientific evidence to show (but without success) that alcohol is a food. That it is not, however, a necessary of life, is a self-evident truism: millions of people never touch it, and are none the worse for its absence. If we keep people from sugar and bread, fat, or vegetables, nature rebels, and there is soon a manifestation of disease, the known result which always follows from the continued absence of such articles from the diet table. No such results happen to total abstainers from intoxicating liquors. But, per contra, it is a thoroughly established fact that the habitual consumers of strong drink are among the most unhealthy of all Her Majesty's subjects, and yet the very same class of persons have only to commit some crime by means of which they are removed to one of the Government convict prisons, when they become, as soon as abstinence has had time to renovate their exhausted frames, not only the healthiest but also the hardest of men. Appeals are being made to men of science by the manufacturers of strong drink, asking them to prove that this is not so. The latter know full well that if this view should become a sincere article of belief among the masses, their occupation would dwindle to a small business, instead of being that powerful and wealthy combination which it now is. The drink interest is already raising the cry of "Great is Diana of the Ephesians." There are many coppersmiths who are now uttering that cry with their utmost powers, and trying to drown the still small voice of science, which is however day by day pointing out to those who really wish to know the truth that alcohol and all its combinations have very little claim to be considered in the light of food. They are learning that it is similar in its application to that of a whip, entirely unnecessary for the willing and working animal, but when used upon the tired

horse it makes the poor creature go faster for a short time, with the certainty that the breakdown will come all the sooner.

I must, however, state that alcohol is something more than a whip. In addition it is like to a pair of bellows, it adds nothing to the quantity of fuel, but it blows up the fire, and causes it to burn all the fiercer for a short time; like the bellows it may lead to a rapid consumption of fuel without putting any more material into the grate, and produces a larger mass of ashes in consequence.

Keep these three points fully in your mind: It is not a food; life cannot be prolonged beyond a very short and definite term, when a person is restricted to its use alone; it is a combination of whip and bellows, useful it may be to tide over a difficulty and save a patient from untoward consequences, occasionally in a life time, but if habitually used the fuel is burnt up earlier than it should have been, until, like the well-whipped ass, at length both the animal and the man refuse to respond to its application. When alcoholic drinks are taken there is increased action, and with that increased action some material is changed in its character. Let me impress upon you the fact that food is taken only for the purpose of bringing about actions which are the evidence of life, and which in man prove an intelligent existence. The effect of alcohol is to arrest those changes in the food before they are completed. This is often seen in other ways. Cherries are put into brandy to preserve them from total and early destruction. Tinctures are made with spirit to extract matter which water will not touch, or which if kept in water would soon decay. Many materials are hardened by it or changed in their physical condition, and are kept from complete decomposition by alcohol. It produces its ordinary effect in the human economy as well as in the laboratory of the chemist. It arrests actions in the body which ought to go on, it stops the complete separation of organic particles into more simple elements. These changes, when properly performed, make matters more soluble in the fluids of the body, by which they may become expelled from the system by the different excretories or excreting glands which nature has provided in the body. This material, when its final change is not perfected, is unable to escape from the organ which was about to complete its dismemberment, and the function of that particular organ is rendered imperfect by the presence of material foreign to its mission, which material is not soluble or cannot enter into union with its other secretions, and which has no business there. The more the organ is stimulated by the alcoholic whip the more it becomes impeded in its function, the half-altered *débris* is unable to travel further, for the lymphatics and veins which ought to deal with it cannot properly touch it. It no longer responds to the

invitations which those organs are able to address to it, for it is not that with which they are accustomed to deal. It is well understood by the chemist and the physiologist that the most virulent poisons which nature can produce are not easily separated from their matrix by water alone. By the aid of alcohol and its ally, æther, the chemist is able to get most of these alkaloids, which are, even in very small doses, the most deadly poison. It is in this way that strychnine is obtained, and the much more valuable material called quinine. The matrix is digested in combinations of spirit and water, and the alkaloids ultimately separated. So also there are poisonous materials which are precipitated from their combinations by the agency of alcohol, and their presence is made manifest when required for the arts. There are poisons of a similar character manufactured in the human economy, as well as in the strychnine and the upas trees. Nature has provided that some of these matters shall not remain in the system, but shall be excreted as rapidly as they are formed. There are several of those which are well known to the physician and the pathologist, and which if kept in the blood are as deadly in their action on the human system as is strychnine or curara. They are formed in excessively minute quantities, and fortunately it is not easy to check their complete expulsion or manufacture sufficient to produce an immediate effect. It requires a sudden and total cessation of excretion to immediately set up the recognised poisonous action of each. When this sudden and total cessation does take place the result is necessarily a rapidly fatal issue.

It is one of the powers which belong to alcohol to arrest the removal of every one of these deadly poisons from the human economy. Not suddenly in a general way, it is true, but by infinitely small degrees, and then to gradually deprive the body of the purifying power which nature provides. When strong drinks are taken habitually, day by day, they successively break up the power of a few of those marvellous machines which abound in the blood, which are our safeguards and our benefactors; and although it is possible for the body to do without some of them, nay, it may even be requisite for other reasons that their numbers should be arrested, yet it is certain from analogy that the limits of destruction are moderate, and that they cannot be greatly altered with impunity.

I will now try and point out to you the way in which alcohol arrests the removal from the body of these self-manufactured poisons. The great emunctories, by means of which excretions are removed, are the lungs, the liver, the kidneys, the glands connected with the bowels and the skin. Science has not yet told us in what form the two latter get rid of active poisons, or

of their precise nature, but analogy tells us, and experiment corroborates the view, that they have the power. I shall, on this occasion, restrict my observations to the lungs, the liver, and the kidneys. Each has a particular purifying action to perform, and each has to relieve the fluids of the blood, and the blood corpuscles of some material which has been used up elsewhere, and has been brought from some other part of the human economy. You have been told by Dr. Kerr that the most important function which the blood corpuscle has to perform is that of carrying oxygen, which it has absorbed (during the act of inspiration) in the lungs, and to take it from thence to the periphery of the body and the glandular organs—there to render it up in exchange for other material. The matters which it obtains in exchange are the remains of that which has been already utilised in performing the various prerogatives which belong in some way or other to each and every part of our system. They are of the nature of *débris*, or used-up material, and are more or less injurious if left *in situ*, or if they are taken to some other part, and are not discharged from the body, or if, being *in situ*, they are not precisely the kind which nature intended. Like to the ashes in a stove, if the housemaid does not clear them away, the fire burns dimly, and there is not the same amount of heat developed. So if the housemaids or carriers which nature has provided for us in the blood are unable to perform their work, *débris* is left where it ought not to be. The blood corpuscle takes in oxygen and gives out carbonic acid, and some deadly nitrogenous compounds are also expelled at the same time. This fact is well known to those who have examined the air of a room in which a large number of persons have been kept for some time without there being any proper ventilation. The air becomes ammoniacal, and contains poisonous exhalations in addition to the carbonic acid. The latter in itself for each individual amounts to from at least twelve to sixteen cubic feet in the twenty-four hours. If the air of a room is allowed to remain unventilated, the quantity of carbonic acid and organic matter exhaled increases in it, so much that the action of the heart decreases, whilst the frequency of inspiration increases. It is established by the experiments of Dr. Angus that the smallest diminution of oxygen in the breathed air affects animal life if its place is supplied by carbonic acid; that the quantity of carbonic acid given off into the lungs increases or diminishes according to the amount of that gas which is actually present in the lungs. The more carbonic acid there is in the blood, the more difficult it will be for the blood to keep up the requisite excess of oxygen. It follows therefore that the carbonic acid which forms in the tissues of the body must be discharged by the lining membrane of the air cells of the lungs as rapidly as

it is brought there, or there is excess in the part, and the purification of the blood is interfered with and morbid matter kept back.

Let us now see how this purification is checked. The blood corpuscle is an excessively minute flattened sphere, consisting of an albumenoid membrane enclosing a liquid. The investing membrane has a property belonging to it upon which its function depends. When brought into contact with gases, having different densities or weights, as you may consider them, the heavier gas passes out, and the lighter into the contained liquid, provided the physical and vital conditions of the membrane are intact, and arranged for that particular transfer. Carbonic acid passes out, oxygen passes in. If the physical condition of the membrane is altered, this interchange does not take place. The action of alcohol on membrane is well known. It may be seen in various ways in the laboratory, and is well understood by the chemist and the manufacturer. The membrane, which is the envelope of the blood corpuscle, is easily acted upon. Alcohol has a special attraction for the water which is contained in the substance of the membrane, and the physical condition of the latter is altered by contact with it. Every atom of alcohol, therefore, which finds entrance into the circulation, and comes into contact with corpuscles ready for its reception, tends to spoil one or more of these active carriers, to damage the function which they have to perform by impeding the exit of carbonic acid, whilst the oxygen which they may happen to contain is used up by the alcohol in its own oxidation. When the blood, therefore, reaches the lungs, these corpuscles, which are thus damaged, retain the *débris* which they already have within their capsule, they are carried on back again into the arterial circulation, unable to do anything for the organ to which they in their turn are conveyed. They lose their beautifully circular contour, do not get the florid colour which belongs to properly oxygenated blood, and have a tendency to lag behind in a very unsatisfactory manner, in a way which is frequently shown in the face and nose of the toper. Every man who habitually takes alcohol, except it be in a highly diluted form, and then at once is mixed with albumenoid matter in the stomach, there becoming itself somewhat changed before it is absorbed; that man deprives some of the blood corpuscles of their proper power, and retains within his own circulation some *débris*, which is undoubtedly of a poisonous character. It is one of the established facts connected with the building up and renovation of the human body that all used-up matter and effete products are injurious to all parts of the body to which they are foreign, and to which they do not belong. Membrane, which has been acted upon by alcohol, is no longer able to perform its physical duty and the transfer of gases and of organic matter from within the body to the outside

is interfered with. Keep this point in mind, for I shall again revert to it. A blood corpuscle cannot come into direct contact with an atom of alcohol, without the function of the former being spoilt, and not only is it spoilt, but the effete matter which it has within its capsule cannot be exchanged for the necessary oxygen, and if the corpuscle has oxygen already within its capsule, that oxygen is used up in oxidising the alcohol itself, and is therefore no longer available for other and healthier purposes. The breath of the drunken man does not give out the quantity of carbonic acid which that of the healthy man does, and the ammoniacal compounds are in a great measure absent. Some of the carbon and effete nitrogenous matter is kept back. The retention of these poisonous matters within the body is highly injurious to the interests of the owner. This injury is very manifest whenever the habitual user of intoxicating liquor is subject to injury of another kind. Let the drinker suffer from a lacerated, or even any wound or injury, and the material which has been kept in his blood is a kind of touchpaper, ready at a moment's notice to prepare and set up actions called inflammatory, or erysipelatous, or some other kind; by means of which too often the drinker is hurried into eternity, although, perhaps, he may have been regarded as a perfectly sober man, and have never been drunk in his life.

Let me now consider another action which alcohol sets up. We are accustomed to speak of animals as being more or less highly organised according to their endowments. The more numerous and complex their functions and powers are, the higher they are said to be in the scale of creation. Man stands at the top of the list. Man is placed there because his mental power enables him to rule over the inhabitants of the earth. His superior endowments are connected with his brain, and in his brain and the nerve centres connected therewith we find the most complete and most highly endowed parts of the body. The first dawn of life is a minute, a microscopical, particle of organised matter which developes into a cell. The advance of development carries this organised material into a higher stage of existence, until it may arrive at brain substance itself. But the most highly endowed particle of matter in all creation is still a cell. It is the most wonderful endowment which any organic substance can possess, and upon it all the intellectual superiority of man depends.

What, however, is the effect of alcohol upon the human frame, when sufficient has been taken to show its action? The wonderfully endowed nerve cell is the first to experience it; there is a change in the manifestation of its activity. The nerve cell is at once seized upon by alcohol when a potent dose has been taken,

an action is set up in the cell, which is not a natural one. It takes effect at once upon this highly endowed part of the human body. Here it exerts its primary influence, and intoxication results. It is a curious, and yet a striking and significant fact, that the true effect is signified in the word *Intoxication*. The meaning of this word is poisoning, and such is actually the effect of the imbibition of alcohol when sufficient has been taken to produce the manifestation of its power upon nerve matter. Every act of the body, every expression of the will, every thought of the mind, is brought about by the utilisation of nerve cells. Whenever a nerve cell is used there is the natural result; the nerve cell, which has developed power, is imperfect until the used-up matter is removed. The effete matter which is the result of the act of the will, of thought, or even of the nutrition of the nerve itself, becomes an impediment to the continuance of perfect action, and is a poison to its companions. We see the same result in the vegetable kingdom, and it is one of the reasons why a rotation of crops is so necessary in farming land with success. The exuvia from one class of plants is injurious to the nutrition and perfection of specimens of the same class, and the analogy is true throughout creation, and is expressed in the proverb of "What is meat to one is poison to another." One result of the production of nerve force, is the formation of a substance which is in some way connected with cholesterine. It is the duty of certain vessels to remove this from its place of production, and carry it to the gland which nature has specially provided to deal with it. Now we feel sure that an atom of alcohol cannot come into immediate contact with a nerve cell without the current of nerve force (which it is the duty of the force battery to set free) being altered in its quality and perhaps sent in the wrong direction. We have already seen that some of the blood cells may be incompetent to perform their functions, so that there is first the chance that the *débris* which is the result of the production of the nerve force, may be left *in situ*, in consequence of the blood-vessels being unequal to their work and cholesterine may remain in excess, and then the next action of the nerve battery is impeded, or, from the direct application of the alcohol to the nerve cell, there may be a misapplication of change, and the organic matter, which is the natural result of that change is not of the usual character, and thus the first stage of nerve decay commences. Fortunately for humanity there is a power of removal if the interference with proper function is not continually renewed. If the application is excessive the power of the individual to continue the application is absolutely taken away, and time is given for outraged Nature to reassert her healthy sway, and the newly-made drunkard cannot go on in his

course. There is a chance for him if the man is warned by the consequences of his first excesses. His downward path may be arrested, but if the warning be not taken, if he allows his lusts to overcome his better reason, the time comes when the action of the alcohol blunts the judgment of the owner, and he is no longer capable of exercising his free will, or of forming a righteous judgment upon things in general, and regarding strong drinks in particular. He has reached the stage which St. Paul describes as, "The base things of the world which are despised hath God chosen, yea and things which are not hath God chosen to bring to nought things that are" (1 Cor. i. 28). The machine upon which the act of judgment depends is itself imperfect. If the lens of the microscope or of the telescope be blurred, how can it give a perfect figure of the object which is viewed through it? The nerve cell and the nerve tube in this case corresponds to the lens in the instrument, and the result must be untrue. It is this imperfection of the battery of thought which probably accounts for the reason why so many otherwise good and thoughtful men are unable to see the damage which results to society from the daily moderate use of alcohol, and it is often a great reason for failure in business, failure in legislation, failure in all things temporal, because those who have to decide upon the course to be followed have been addicted to a free or at least a daily use of strong drink. Who shall say until the great day of account comes how many battle-fields have been lost, nay, still worse, how many wars have been precipitated and how much slaughter has resulted from this daily habit? When the judgment has been specially required to be clear and the head cool, the actor has thought to steady himself by a glass of wine or other alcoholic drink; but by means of which his mental powers have been really dimmed, and the course pursued has led to wars and its accompaniments, to disaster and defeat. I am not asserting that this has been caused by the act of the decided drunkard, though far too many instances crowd upon one's memory for me not to be able to say it has sometimes happened; but I assert that it is the steady and moderate drinker who is liable to this irregular and imperfect judgment, and the possibility of its occasion is a great reason for abstinence.

It is known that the use of brain matter and other nerve substances in the exercise of its endowment tends to produce the material called cholesterine. This substance is removed by the circulatory organs, and is conveyed to the liver, and should be there excreted, and thrown out of the system as a component part of the bile. If the brain action is imperfect this does not result, and some other unknown changes do or do not take place. One thing is certain, that the action of alcohol leads

to a so-called fatty degeneration of tissue, which arises sooner or later in the brain substance as well as in every other part of the body. The nervous system is the first to suffer from the immediate effect of alcohol. So no doubt it is also the first to feel the influence of the changes which alcohol effects, or of those which it hinders. Let me impress a very important point upon your notice. Fatty degeneration is not the production of fat as one generally understands by the term "getting fat," it is not the production of layers of fat among the tissues of the body, or as animals do when they are over-fed, but the grains of fat take the place of the tissues which make up the organ. It is not an addition to the organ, but in the place of it. Keep this point fully in mind, otherwise you may think that if alcohol will produce fat it must be an advantage. The organ consists of millions of cells. Let daily doses of strong drink be taken regularly every day, and you risk the chance that a few of these are changed from healthy nerve cells to fatty nerve cells, and sooner or later, according as the alcohol affects one part or another of the body, some part of the machine becomes unable to do its duty, and there is more or less disturbance in the whole fabric, so many of the rank and file upon which that duty depends have been put *hors de combat* in consequence of the non-removal of their dust. There is fat instead of the ordinary *débris*, and the fatty matter thus formed in the cell remains there until there is sufficient of certain other products to dissolve and to remove it. Its removal may be slow, its production may be a rapid one, and in the meantime the organ controlled by the damaged part is out of gear. Keep this point in mind—fatty matter in the wrong place, cholesterine either not formed, or if formed not removed, and in consequence of this effect there is an absence in the blood of one of the materials which is required for the proper formation of healthy bile, for cholesterine is a part and parcel of the bile secretion. Thus, you see, there are wheels within wheels, and damaged nerve cells cause defects in other organs, and one of the earliest is the difficulty which arises to digestion from the defect in the component parts of the bile. Thus you see the intimate relationship which exists between the brain, the stomach, and the liver. The latter organ is influenced in various ways by brain disturbance. It will be nothing new for you to be told that the most frequent result of too much alcohol is liver disease, and there is no doubt but that this disease is greatly on the increase.

We have managed to diminish the incidents of some diseases by the inculcation of sanitary precepts, but diseases of different organs of the body continue to become more and more fatal in the middle ages of life, and to fill up the gaps in the sum of figures which sanitary science is making in the death-roll of the

country. The liver has to do several things; a considerable part of its duty is to purify the blood from *débris*, to filter out some things, to break up and alter others, and to expel them from the body in the form of bile. There are certain diseases in which the liver suddenly declines to do any more work: perhaps it receives no orders from head quarters. Acute atrophy of the liver is the name of this disease, and when it does arise death rapidly results from a suppression of the secretion of bile. It brings about a condition called acholia, the patient is actually poisoned by the non-removal of those ingredients from the blood which it is the duty of the liver to remove. A state of things is rapidly brought about which corresponds in effect to the condition which alcohol can bring about by slow degrees, and which some forms of alcohol will bring about sooner or later if they be indulged in, and if their effects happen to fall first upon the liver. The bile, like all other secretions, is formed by cell action.

Excess of food has a tendency to form fat in the liver, and to produce disturbances which are called bilious. Alcohol has a similar effect in its tendency to form fat cells, and their production in quantity impedes the work which the liver cells have to do; we know that excess in both food and drink brings on such states as are called bilious, and leads to a rebellious liver. It is, however, one of the prerogatives of alcohol, and one which does not belong to true food, that it blunts the source of nerve force by preventing a correct manifestation of nerve-action, by means of which those usually watchful sentinels are unable to respond in a right way. As a consequence there is a lax discipline; the so-called bilious condition does not come on, more of the enemy is admitted to the citadel, and he works his way by damaging the excretory organ more and more until some considerable quantity of that which ought to be excreted is kept back, and small instalments of alcoholic or bile poisoning are set up, not however sufficient to produce death, but enough to cause headaches, and other pains, sleeplessness, restlessness, and to lay the foundation but too often of nerve disorders, which, if not removed, will land the unfortunate victim in the madhouse, the prison, or the hospital.

The continual production of nerve force, a production which belongs to the act of living, and accompanies every act of the body and mind, whether right or wrong, produces changes which result in the formation of cholesterine, which finds its way into the blood. The cells of the liver have to remove this matter. If they are fatty they cannot do it. Even if they do remove it, it may be in such imperfect combination that it separates in the gall bladder. The liver of the habitual user of alcoholic liquors,

even in moderation, always has some fatty liver cells, and some of his machinery is not quite up to its proper duty. His blood is not pure, loss of appetite arises. Perhaps the man is said to be bilious, and he still farther maltreats his digestive organs by taking irritating doses of active medicines, to compel the removal of some of the offending matter by other channels, and he thus enables himself to go on still further in the wrong direction. It is abstinence and exercise, not physic, which will remove the effects of fatty liver. There is, however, another action which is set up in the liver by alcohol, and which arises from its direct application to the vessels which nourish the organ, and which the pathologist has good reason to associate with gin drinking. The immediate effect of alcohol is upon the blood-vessels. The power of the nerves which preside over the nutrition of the body, and which are distributed everywhere, at once feel the influence of the imbibed spirit. Those nerves are especially abundant in the blood-vessels which supply the liver. The consequence of the action of alcohol on those nerves is to produce a semi-paralysed state, in consequence of which the blood-vessels dilate—that is, become larger. This state is called congestion, the vessels contain more blood than they are usually accustomed to carry. This happens at the very moment when their nutrition is interfered with by the action of the spirit upon the sources of their power. The ultimate result of this stretching of blood tubes is a so-called state of chronic inflammation, which, in the end, ties down the structure of the liver, stops the proper circulation, and starves the structure, so that having in the first instance been increased in size, it afterwards shrinks and wastes away. There is no longer a proper removal of the *débris* from the blood. There is no longer a proper removal of the waste of nerve matter, or of the used-up blood discs, neither is there a proper power to form the material which, when acted upon in other parts of the body is the source of animal heat. Ultimately the owner becomes the victim of one or other of the diseases which these defaults set up, although it may be possible for that individual to have been regarded as a jolly good fellow, and not one in ten of the victims ever finds himself inside a police court, or transgresses the laws of propriety. They do, however, cut short their own lives by their own acts, and to my mind are as properly classed with suicides as those who more rapidly poison themselves by becoming habitual drunkards. There is a slow poison left behind, which but too surely produces a fatal result, if the habitual use of strong drink be continued.

Men, and even medical men, are accustomed to deceive themselves by thinking that it is only when the results are manifest to common observation that there is decided damage, but does it not

stand to reason that an organ containing millions of cells, and quantities of fine tubing in which those cells are contained, and when there are also miles of fine conduits for the conveyance of nourishment to those cells, that it is by the damage of these cells and the destruction of these tubes and conduits that mischief results? Does it not stand to reason that mischief commences as soon as a few of them are destroyed? Destruction is not a natural result, it goes on in an unnatural direction, and when any part of the gland is interfered with something is kept back which ought not to be retained, and there is at once a foundation for evil. Immediately alcohol gets into the circulation it passes on in a most rapid manner, some atoms directly into the liver, some reach the brain, others affect the nerves of nutrition; a portion, it is true, seizes upon albuminous matter before it enters, and does comparatively little damage, for its own powers are interfered with, which is the reason why it is much less hurtful when taken upon the full stomach than upon the empty one; but in every case its volatility enables some of it to escape and diffuse itself to the different organs of the body, doing mischief to every part; but, as too often is the case in this world, making black white, and leading the actor into the belief that he is all the better for the arrests of actions which have taken place. In reality, the reason why it appears to do him good is that there has been some unhealthy process at work previously to the imbibition of the alcohol, and which action is delayed in its manifestation. Its effect is like to a merchant who has a great number of bills becoming due, and which it is impossible for him to pay off, or even to renew if they come all at once; but alcohol defers the account, and enables the acceptor to postpone their payment by adding the interest and renewing them for another period, and so he puts off the evil day, only, however, to make the account all the heavier when it has to be met.

Let us now pass on to consider the next great purifying organs of the body, viz., the kidneys. I will not trouble you with a mass of statistics bearing upon the mortality from the diseases of this organ, but it is a very striking fact, that just as the observance of sanitary laws tends to remove those classes of disease from our midst which are caused by filth and overcrowding, so we find their places filled up by increased mortality from other complaints. This seems to be especially the case with those which arise from diseases of the kidney. Comparative immunity from the results of infectious disease allows of greater length of life, but the arrest comes before its time nevertheless, and diseases of liver, of brain, of heart, and especially of the kidneys, are alarmingly on the increase. Great part of this increase is undoubtedly due to the habitual use of strong drink. If the lives of the young

are saved from the fatal effects of fevers and other epidemic disorders it seem as if the victory was only to be followed by defeat, in detail, from other causes. I am of opinion that every child born into the world has the chance of living to be a hundred years old. It first runs the risk of destruction from parental ignorance or neglect; to this is added the mischief which follows from ignorance, too often wilful, as to the laws of health, which ought to be observed by the parents or enforced by the State. If the individual escapes these dangers he falls a victim either to inherent weakness, the result of his forefathers' misconduct, or he commits slow suicide by his own acts, and so diminishes his average length of life to a little above forty-one years. Let me impress upon you the fact that a child has a birthright. That birthright is health. If he is deprived of it by parental sin committed previous to the birth of that child the responsibility rests upon the parents as the murderers of their offspring. If it is deprived of it by ignorance, the responsibility rests upon the governing body, who have allowed that ignorance to be possible. It may be deprived of it by the neglect of the governing body to do its own duty. Up to this point there is no responsibility upon the individual, but not so in a later stage of existence. When the acts of the individual are the result of other people's teaching, and before he reached to years of discretion, the result is partly to be borne by the teachers, and hence an enormous responsibility rests upon parents and teachers who allow to young people the possibility of having their years shortened by indulgence in liquor, and paving the way for that perverseness of intellect which shows itself in later life, and which must come when they see no evil in the daily use of intoxicating drinks. The drink is very often given to the child under the mistaken notion that it will do him good. It is taken at first as a medicine. Then comes the time when the child begins to like it, gets a will of its own, and takes it because he likes it. This goes on for a season, but it soon comes to pass that he is no longer a free agent, he takes it because he thinks that he cannot exist without it. The craving which shows morbid nutrition comes on, and then there is no help in this world for that individual except to so keep him that it shall be impossible for him to come within the influence of strong drink, until all the tissues in his body which have been maltreated shall be used up and removed from their place. It is probable that the class of persons who become habitual drunkards have a defective filter in the kidneys or the skin, something is left behind which the kidneys or other organs should remove, which is attracted to the cells of these organs and retained there just as we see in the arts, when certain materials are used for the purpose of discharging a colour. There is an attraction for

the material, and a pattern is fixed upon the cloth to be dyed or figured. It is probable that some of the improperly formed matter which results from the action of alcohol on brain and other nerve cells produces some material which is similar in its action to dyes, and this matter at once takes possession of the cells in the kidney, or in other organs, in its passage out of the body, and prevents their acting in the way that nature intends them to do, and there is an arrest in the formation of another deadly poison which it is the duty of the kidneys to pass out of the body. This is a material called urea, and a salt called uric acid. It sometimes happens that the kidneys suddenly refuse to do their duty, and then death is certain to follow in a very few hours. There cannot be any possible good in keeping back in the blood any of the four poisons I have mentioned. The ammoniacal compounds which are excreted by the breath; the carbonic acid, which passes from the lung cells; the cholesterine, which it is the duty of the liver to separate from the blood; the urea, which ought to be removed by the kidneys, are all outside the pale of medicines even. No possible good can result from their detention, and no single cell can be damaged in any organ of the body without there be more or less a certainty that some of these poisonous matters will be held back, and be kept so as to be nuisances and injurious to the health of the producer. In no way can it be shown that the usual physical and chemical actions of alcohol differ in their course in the body as compared with similar actions out of it, and however men may deceive themselves, and think that they prefer the alcohol to the abstinence, they have no right to teach men that it is right to shorten life and to lay the foundation of disease. Disease is not a necessary part of existence. It is not a necessary part of death itself. The cereal does not die from disease when its mission is completed; and some men depart this life without a sign of disease in any one organ. That which is true of some might be true of all if the laws of health were obeyed. I shall be met here by the statement that men can and do take alcohol, and live to a great age, and do not die of disease induced by alcohol. I will, however, challenge any one to bring forward a single person who, as a child, has been accustomed to drink stimulants, and who has continued their use during upward growth to manhood, ever reaching old age at all, unless it has been by passing through the fire of ill-health and abstinence. I have in my mind now a number of families whose children have been brought up almost from infancy with daily doses of alcohol. I have seen several of those families become all but extinct by early deaths. They are worked up by the whip and bellows until the effete matter left behind has destroyed their power altogether, and if on others it has not

caused an early fatal result it has laid the foundation for diseases which have made the owner a permanent invalid. There are many such instances within my experience as a medical practitioner, which has extended now over a period of more than thirty years. It is true that there are many anomalies not fully understood at present. Some people do take great quantities of alcohol without suffering from its immediate effect, or even from those which I have indicated as most likely to follow. Scotchmen, for instance, in Highland districts, may take much whisky without succumbing to its influence; although the exceptions are not so numerous as are reported. I need not, however, dwell upon the exceptions. It may be that changes have been produced by the alcohol itself, which steels the possessors to the consequence of their own acts. Opium, for instance, may be taken so as to lose its toxic character, and may be given continuously in immense doses; but no one would be so insane as to argue from this that opium is not a poison, and no one on similar premises ought to argue that alcohol is harmless. The consumer of opium has a damaged mental nervous system, and the habitual consumer of large quantities of alcohol is not the man he would have been if he had let the habitual use of alcohol alone, and there is a break down in the long run.

But, say some of my friends, "How is it that ill-health and early death take place in the young, in those who have never tasted alcoholic liquors, and who certainly are not the children of the habitual users of strong drink. Let me be quite clear upon this point. I do not assert that all disease is due to alcohol, and that total abstainers do not suffer from disease as well as other people. There are many things besides alcohol to produce disease. Gluttony and lust, temper and poverty, the cupidity of men in selling unwholesome food, and the ignorance of men or their neglect of sanitary law, all claim their victims. I told you that every action of the body or mind produces a result in the physical and chemical condition of the body. The *débris* thus produced if not removed properly from the system, is a mass of ignitable material, ready at hand for evil purposes. Some constitutions habitually find difficulty in expelling these excreta, they are hereditarily more susceptible of outside influences than others; this is especially the case with those who are the descendants of the free livers of olden days. This is not the place to enter into the causes of these hereditary tendencies, but they are clearly due to parental influence. The children of men who have depended upon the whip and the bellows for daily "go" will not be able to stand against those influences which the progeny of the healthy man will scarcely feel at all.

It is time that I reverted to my propositions, viz., that alcoholic

drinks are not necessities of life. Their action being, as I have detailed, it must be evident that their daily use is hurtful. I have been in the habit of treating disease for the past ten or twelve years without prescribing more than has been absolutely necessary in consequence of the habits of my patients, and I can most truly say that I have never had reason to regret the advice which has been given, but I can look back to the time when I thought a more free use of stimulants was necessary, and can feel regret at the damage which I now believe they caused to the best interests of my patients. Useful at times they may be as medicines, just as a mustard bath may be at times of the greatest service; but let the mustard bath be taken every day, and in the end nature rebels at the treatment. So it is with alcohol, a grand medicine in skilful hands, but, like the sharp knife in the hand of the young child, will only produce mischief if used by the unskilled and the ignorant man. Women of England I charge you in the name of God, and as you must answer for it at the Great Day of account, to determine that you will not be a party to the mischief which must follow from its daily use.



THE MEDICAL PROFESSION AND INTEMPERANCE IN ALCOHOL.

BY A MEDICAL MAN.

DURING the last few months there have appeared in the correspondence columns of the *British Medical Journal* a considerable number of letters on the responsibility of the Medical Profession for the prevailing intemperance, especially among women. The discussion originated through the reception by Mr. Baker, of Brentwood, of a printed tract, entitled "A Woman's Appeal to the Medical Profession." The authoress of that appeal, Miss Hellena Richardson, is well known in the city of Bristol, and by temperance workers throughout the country, as an ardent supporter of total abstinence. That our readers may be enabled to judge for themselves as to the worth of the appeal, we give it entire.

"A WOMAN'S APPEAL TO THE MEDICAL PROFESSION."

"If you are about to prescribe alcohol, in any form, to ladies, as a convenient and pleasant remedy, stay a moment, and consider the probable consequences. Would you wish to give fresh justification to the general assertion—only too well founded—that it is the doctors who teach women to drink?

"Will you deliberately, by your prescription, teach any one woman the habit of drinking?

"Do you think it right to prescribe what you believe may relieve the present malady, but is very likely to produce a far worse disease—even the liking for, and, by-and-by, the craving for strong drink?"

"Have you *any right*—if I may venture to ask you so strong a question—have you any right to lead the women who entrust their health to your care out upon the slippery path down which so many have gone, and are going, into disgrace and shame and death?"

"You know, as I do, that the woman who takes stimulants to relieve 'a sinking,' is walking into a quicksand in which she may soon sink overhead.

"I earnestly beg you to study the other remedies which may answer the purposes of alcohol, and with no such dreadful risks, and to prescribe such instead; thus doing away, in your own case, at least, with the reproach justly cast upon your profession.

"A physician lately said to me, 'We are more blamed in this matter than we deserve. Women come to me at the hospital, and ask, "Please sir, may I take my glass of beer?" I see no especial reason for discontinuing it, and I reply, "Yes, you may." And they go straightway to their charitable friends, and beg money to buy the beer and the porter which they say the doctor has ordered them to take!'

"No doubt this is often done; but there is an easy remedy. When asked such a question, reply, 'No! drink no beer, nor porter, nor spirits; they are sure to do you harm in one way or another. Drink water; nothing purifies the blood like water. Take cocoa, coffee, or tea, if you like; but for health and strength drink cold water.'

"Had this always been the advice given to women when sick, hundreds and thousands now dying of drink, denouncing the doctor who brought them to such a fearful death, would be living—healthy, happy, and respectable.

"When shall we cease to hear the despairing cry, 'It was the doctor who first taught me to drink, and now I cannot resist the thirst; I must die a drunkard!'

"And here there lies in the background another responsibility. It is pretty well proved that children inherit the tastes and tendencies of their parents, as well as their constitutions and diseases. Idiocy, madness, and that still more terrible disease, the craving for stimulants, will be the frightful inheritance which these unhappy women must bequeath to their children.

"Shall this be so? It is for you, our medical men, to reply. It is you who possess the greatest power to influence in matters of health and diet. It lies in your power to decide the fate of thousands of the women of England.

"HELLENA RICHARDSON."

It will not surprise our readers much that such pointed remarks as these should have given offence to some members of the profession. We are not greatly concerned to maintain the literal accuracy of every word in this highly rhetorical appeal; but this is very different from charging the authoress with uttering "transparent falsehoods," and from describing the publication as one "whose only characteristics are its virulence and mendacity." This, however, was the style in which Mr. Baker, writing, apparently in hot haste, on the same day as he received the appeal, chose to reply, or, rather, to repudiate it. The expression in the appeal, "that it is the doctors who teach women to drink," which seems to have specially aroused Mr. Baker's ire, is certainly, it seems to us, open to criticism. As it stands, it would imply that the drinking habits of women are wholly due

to the doctors. We are convinced that this is neither correct in itself, nor the correct meaning of the writer. The context shows that that meaning would be fully expressed by the words, "that the doctors (often) teach women to drink," and this statement can be abundantly proved. Mr. Baker also ridicules the assertion, that "hundreds and thousands are now dying of drink, denouncing the doctor," &c. This, again, is not literally accurate, but though it lays the writer open to a charge of exaggeration, yet it can mislead no one as to the facts of the case, or as to the intention of the writer. No one can imagine that, at any given moment, at least two or three thousand women are dying, all, in some set formula or other, denouncing the doctor, &c. But that large numbers of women, once respectable, have died through drink, are dying, or will die, and that many of these will in their secret hearts, or more openly, curse the day when they first sought relief from alcohol under medical advice, does not make much demand upon our imagination or credulity.

It would be absurd to suppose that in all cases of habitual drunkenness the origin or progress has been the same. But there is this feature in common, namely, that in all of them the effect of alcohol on the nervous system has been such that a craving for the drink has been established, and that the will-power has been so impaired in confirmed cases that no consideration of morality will prevent the inebriate from endeavouring to obtain it. Every medical man has come across such cases, and there can be no question whatever but that many of them have arisen from resorting to alcoholic drinks for the cure or relief of all kinds of complaints, and that this has often been under medical advice.

Miss Richardson has furnished cases, under the challenge of Mr. Baker, which certainly prove that such medical advice has had disastrous results. Strictly speaking they do not meet the demand of Mr. Baker, who will be satisfied apparently with nothing less than the production of the names and addresses of "hundreds and thousands of dying women, denouncing the doctor, &c." But they are quite sufficient to show to every candid mind that the recommendation of alcohol is a very different thing from the recommendation of cocoa or beef-tea, and that there is a danger attached to alcoholic liquors which does not pertain to non-intoxicants. Dr. J. J. Ridge furnishes two other cases of a similar kind, one of them that of a lady, who, alas! though dying a drunkard, did not denounce the doctor who started her on her fatal course, but loved her enemy to the last, apparently bereft of even that last spark of right feeling and common sense which might show itself in bitter, though vain, regret for the first false step. Dr. J. C. Reid very courageously furnishes other

cases from his own long experience. If, then, we reflect that these cases can be guaranteed by only three individuals, we may well believe that a vast number of sad histories of a similar kind are written in that book to be opened at the last great day alone.

Moreover, such cases are peculiarly difficult of demonstration. The mouths of those who could testify are often sacredly sealed; others who could "a tale unfold" maintain a studied silence; others, verily guilty, are sublimely unconscious of the after-result of their thoughtless recommendation—the very fact may have passed from the minds both of physician and patient.

We contend that while intoxicating drinks are used by a number of individuals that some of that number will become habitual drunkards. (This is not the whole of the evil, but that with which alone we are at present concerned.) Which particular persons will become the drunkards we cannot possibly tell beforehand: if we could we do not believe that anyone would deliberately start them on that career. In this case, however, we might recommend alcohol to those who never are to be drunkards with a clear conscience. Just in the same way we know that if a crowd is drenched with water from a fire-engine, some will catch cold, and this cold will in some cases result in inflammation and death, though no one could predict beforehand which those cases would be. For anyone to play such a practical joke with the knowledge that such a fatal result was certain or even probable, would be to make himself responsible for that result. The plea of ignorance will not avail, especially when previous experience has demonstrated the fact. The *intention* of the joker will certainly not modify the consequences in the slightest degree, and our moral sense cannot but regard his indifference as more or less culpable. The refusal to admit the probability of the consequence does not alter the fact, and though no one, except Omniscience, can gauge the degree of blame which any such wilfully blind person may deserve, yet we feel that in such a case "might have known" means also "ought to have known," and that all responsibility is not lightly to be repudiated thus.

Any one can or may understand that the indiscriminate recommendation of intoxicants is certain to manufacture some drunkards. The only plea, therefore, which can bar condemnation is, not ignorance, but necessity. What constitutes necessity different minds will differently determine. But we believe that there are few medical men who would undertake to say that they are infallibly certain that any particular case requires the administration of alcoholic liquors for the preservation of life. There may be a greater or less probability of its value for that purpose, but in the vast majority there would be alternative measures of equal value. Not that these cases of life and death are the chief, or, indeed,

frequent occasions of intemperance. In them the drug is administered during the crisis, and may be abandoned immediately after, whether it may have been of any use or not. But the danger arises principally in those minor cases of *malaise* and ill-health during convalescence, and for the relief of "sinking sensations" (as Miss Richardson justly observes) and slight pains, in which the alcoholic drink appears to give so much temporary relief, and is, therefore, resorted to more and more frequently, until it has perverted the nervous system in its characteristic way. It is true that a careful recommendation to observe rules as to time and quantity will obviate some of the danger, but it will not totally prevent it. The *minimum*, however, consistent with the use of alcohol at all, can only be reached by the patient's being supplied with it in the form of medicine, of the nature of which she must be in ignorance, and of which, of course, she must not be able to get an unlimited supply.

Nevertheless, there are medical men who assert that they have nothing to do with the moral aspect of their advice; that their only duty is to recommend that which they consider best for the recovery of the patient, who must bear all the blame of any abuse of the remedy. We cannot admit this disclaimer. A medical man does not escape from his duty to his neighbour by the fact that he has acquired special knowledge of disease and drugs. On the contrary, his responsibility is thereby tremendously increased. His knowledge of the insidious action of alcohol should make him far more cautious than any outside the profession, and his desire for the material benefit of his patient can never give him liberty to disregard his moral and spiritual welfare, to say nothing of his remoter prospects in this life.

These considerations were well urged by Dr. Branson, who, very pertinently, says—

"Do we not believe that if an epidemic disease were to break out and destroy a fiftieth part of the number that are destroyed by alcoholic liquors that the medical forces would be speedily in action to relieve and remove it.

"Finally, do medical men sufficiently recognise the moral aspect of this question, or feel their true responsibility as the guardians of the public health? and do we honestly believe that the questionable therapeutical value of alcohol in any degree compensates for the unquestionable amount of evil wrought by it; or, in other words, should we contend for the medicinal use of arsenic if its wide-spread abuse and results were so painfully evident as is the case from alcohol?"

We believe that this view of the subject must commend itself to the mind and conscience of every thoughtful physician. No one will contend that the medical profession is responsible for all the prevalent drunkenness; but if the large majority of the profession had condemned the habitual use of alcohol, both by precept and example; even if they had only encouraged and assisted total ab-

stainers to persevere instead of ordering them to drink at the first opportunity, under the fear of death, the prevalence of total abstinence, and the consequent absence of drunkenness, would be vastly greater. To take but one case; how many thousands of young women have been induced to abandon total abstinence on having to perform the duties of a mother! And all these have been lost to the cause, and have, therefore, too often never influenced their children to abstain, while not a few have themselves become inebriates from this beginning. Yet, at the present day, eminent authorities condemn most strongly the employment of alcoholic liquors during lactation! Thus, Dr. King Chambers, an advocate of the moderate use of alcohol, in his book on diet, advises nursing mothers who are moderate drinkers that the less alcohol they take during this period the better for them. Shall we not have to admit, then, that in this one particular alone, the mistaken advice of the medical profession has been (and, we fear, in part still is) responsible for the value which the public attach to alcohol, and for some of the consequent intemperance?

We would fain hope that many medical men will lay this matter seriously to heart, and that they will realise the tremendous influence they possess in this question for good or evil, and decide to avoid all risk of the latter, by giving no uncertain sound on the use of intoxicating drinks. Even the non-abstainer may surely join Dr. Chambers, and say of alcohol, *THE LESS THE BETTER*, not only during lactation, but at all other times also.



ALCOHOLIC HEREDITY AS A CAUSE OF DIPSOMANIA.*

By NORMAN KERR, M.D., F.L.S.

It is true that, in the words of Lord Althorp, "the cause of drunkenness is drinking," and that if no one drank fermented wine or other intoxicating liquor there could be no such phenomenon as a drunkard. But there is no royal road to immunity from intemperance—no short cut to universal temperance by the absolute exclusion of alcohol from the world. This potent chemical agent has its legitimate uses in the arts, in science, and in therapeutics. We cannot get rid of it if we would.

We must, therefore—though we may by the spread of total

* Read at a Conference of the North London Branch of the British Medical Association, March 24, 1881.

abstinence, and the successful operation of sound prohibitory legislation, greatly lessen its power for evil—accept the presence of alcohol in our midst as an inevitable condition of modern civilised life.

It being beyond our power to wholly banish from our shores the powerful irritant narcotic which is the active agent in the production of the habitual inebriety which is so deep a stain on our character as a nation, the imperative duty lies on us to trace to their original source all the causes contributing to our national reproach.

Dipsomania has, it must be admitted, a moral and a religious aspect. It is as truly a sin against God as it is the terrible penalty of disobedience to the natural laws of temperance and health.

But dipsomania is something more. In some cases it may be the result of purely selfish indulgence—the unbridled gratification of acquired vicious tastes. In some, the dread infliction of confirmed drunkenness has insensibly stolen upon a highly nervous temperament, soothed by the beguiling strains of the syren—drink. In some, a debilitated *morale* has slowly, yet surely, succumbed to the powerful spell of the enchanter—alcohol. In some, a wearied brain and an overtaxed intellect have quickly fallen prostrate before the false hopes and fictitious strength vainly trusted in as the reward of devotion at the shrine of Bacchus. In short, a hundred different abnormal conditions of body and brain may tempt one to trust to the illusory hygienic and restorative protestations of the mightiest and falsest magician of modern or ancient time,

“ The magic cup
Of rosy, red, life-giving wine,”

with the sad sequel we, as practitioners of medicine, are so often, in these days, called helplessly to behold—confirmed inebriety.

We must go farther back still to track the stream of intemperance to its remote source; we must pass by the present generation and extend our inquiry into the habits of our ancestors.

In many forms of disease we must look beyond the patient under treatment for the

“ Fons et origo mali.”

Cancer, phthisis, scrofula, and rheumatoid disorders, are well known as frequent heirlooms handed down from generation to generation. Physical, nervous, and mental ailments are all liable to descend from parents and grandparents to the hapless offspring. Special features, alike of body and of mind, are characteristic of individual families and races. In like manner, corporeal cerebral and mental diseases, induced by indulgence in alcohol, are seen to be transmitted as an hereditary possession.

But sad as is all this plenteous crop of inherited alcoholic disease, it is as nothing compared to the still sadder and more intense transmission of the drink-crave itself. Many a brilliant and high-toned man, towering above his fellows by the depth of his intellect and the loftiness of his purpose, has, after waging a hand-to-hand struggle with his hereditary tendency to excess in alcohol, fallen at last a victim to the tremendous might of his ancestral foe. Not a few there are of those who have kept themselves scathless, and have passed through the fiery ordeal unharmed, who have achieved their undeniable temperance only by a life-long warfare to the knife with the latent hereditary enemy which was ever ready, on the slightest provocation, to spring upon them and fold them in a fatal embrace.

Whatever their rank or their accomplishments, the subjects of the inherited drink-crave can totally abstain, or can drink to excess, but drink temperately they cannot. With such the moderate use of intoxicating drinks is a simple impossibility. So irresistible is the might of the hereditary alcoholic taint—all the more dangerous that it lies hidden within their very being—that even the thoughtless medical prescription of an intoxicant by a physician, and a slight sip of fermented wine at a sacred service on the injunction of a conscientious but uninformed priest, have been known to ensnare the hereditary legatee of alcohol and thrust him from his high estate of abstinence and safety. On a review of even a victorious career, the human partner in the indissoluble union between hereditary alcoholism and weak human nature can truly say in the language of Wallenstein's Duchess :

“ In this unhappy marriage what have I
Not suffer'd, not endured ? For even as if
I had been link'd on to some wheel of fire
That restless, ceaseless, whirls impetuous onward,
I have pass'd a life of frights and horrors with him,
And ever to the brink of some abyss,
With dizzy headlong violence he whirled me.”

Many dipsomaniac patients have been under my care, who have been indebted for their besetting trouble—whether you call it vice or disease matters not—mainly to the selfish conviviality of their progenitors. In one instance, where every member of the family was a dipsomaniac, the father, mother, and grandfather had been conspicuous devotees to Bacchus. Verily the sins of the fathers are visited even unto the second and third generation !

Another lamentable family history presents itself to my mind. The father died from alcoholic softening of the brain. The six children all became habitual drunkards. In one of the most painful cases with which I have had to deal, that of an educated, intellectual, and accomplished lady, the family failing was shared

by all her sisters. The father and grandfather were both addicted to drink.

To me there is nothing, in the whole range of medicine, clearer than the hereditary transmission, not only of mental and bodily disease, resulting from intemperance, but of the veritable drink crave itself. As Plutarch puts it, "one drunkard begets another;" and it has been in cases of inherited dipsomania that I have found it most difficult to effect a cure, or even to succeed in mitigating the severity of the paroxysms. Perhaps the most painful duty in my professional life has been to helplessly stand by and sadly witness, with no power to save, the whole mournful tragedy of heredity in alcohol:—

"Where sense ran savage, broke from reason's chain,
And sung false peace, till smothered by the pall."

It should never be forgotten that the overpowering and almost irresistible craving for strong waters may descend to children from parents who may not have been noted for riotous excess. Some human beings are so constituted that they can consume immense quantities of even the strongest alcoholic drinks with apparent sobriety. I have known "seasoned casks" take daily three, four, or six tumblers of whiskey toddy after dinner, in addition to wine during the meal and sundry nips in the earlier part of the day, and yet never appear in the least intoxicated. But these "judicious bottleholders" may have children whose nervous system is more impressionable and susceptible; and the so-called "moderation" of the sire may blossom into confirmed inebriety in the son. Of this development of the alcohol drink craving I have seen several typical examples.

The straits to which the subjects of the inherited drink taint are, by the conditions of their fell birthright, subjected from their earliest years, appeal to us in the most imperative terms for wise and just legislative action. Whether it be right to throw the sanction of the law over the public temptations to drinking which abound throughout the kingdom, or even to allow the continuance in our midst of these licensed traps for the snaring of the heavily handicapped subjects of the law of heredity in alcohol, is not for us to discuss to-night. But I cannot refrain from the expression of the opinion, that such an act of righteous legislation as the effectual prohibition of the liquor traffic would be as advantageous to the common weal as it would be just and merciful to the struggling ones whose piteous case we are now considering.

Meanwhile, however, while the narcotic poison which causes all our inebriety is almost everywhere openly exposed for sale, can we not do something for the shattered and the wrecked dipsomaniac himself? The Habitual Drunkards Act of 1879,

inefficient as it undoubtedly is, has not yet had a fair trial. There is but one licensed retreat I can conscientiously send an inebriate to, and that one is only for the wealthy. For the poor (and how many of our confirmed inebriates have reduced themselves to poverty!), as well as for the drunkard of moderate means, there is at present no place of refuge where he can make an honest attempt at reformation or cure, free from the seductive and all-powerful influence of his inveterate foe.

In the establishment, on a sound and permanent basis, of the Dalrymple Retreat, all can cordially unite. The brewer, the distiller, the wine-merchant, the publican, and the abstainer should all alike welcome so hopeful an effort at the restoration to health, both of body and mind, of those unhappy weak brethren who have fallen under the dominion of the slavery of drink. Let us, as members of a profession whose proudest boast is their special concern for the feeble and the helpless, do everything in our power to make the proposed institution, bearing an honoured name, such a success, that, by its means, cases of so apparent hopelessness may be cured, as will convince the legislature and the country of the propriety of conceding more extended and more adequate compulsory powers.



HEALTHY HOMES.*

THERE are few more useful methods of improving the health of the masses than the conveyance of instruction in sanitation in simple and easily-comprehended language. In this valuable department of practical sanitary work Dr. Stanley Haynes has done good service. The *brochure* before us comprises the extended notes of a lecture delivered to the inhabitants of the healthful and invigorating districts of Malvern. There is much sound teaching on the true principles of sanitary reform in this unpretending pamphlet, and the judicious inquirer will find in it very important and invaluable hints.

Whilst thus unstintingly commending the general sanitary teaching of Dr. Haynes, it is incumbent on us to point out his halting opinion on intoxicating drink, and the unsoundness of his deliverance on "nourishing stout." Dr. Haynes very justly reprobates the too-common practice of men pouring more or less undiluted spirits down their throats, as "destroying their diges-

* *Healthy Homes.* By Stanley Haynes, M.D., F.R.G.S., M.R.C.S. London: Bailliere, Tindal & Cox.

tion." He, in another place, in insisting on alcohol, "if taken at all, being taken in a weak form," enforces the necessity for this dilution on the ground that "alcohol checks digestion."

Yet with this thorough knowledge of the anti-digestive action of alcohol, Dr. Haynes, while holding that water, cocoa, coffee, and tea are the best drinks, teaches that, as a beverage to follow a solid meal, beer may sometimes be taken, or, exceptionally, a little spirit added to the water! Does not physiological research clearly show that, for the purpose for which this beer and spirit allowance is recommended—the reduction of solid food to a fluid form to promote absorption—the one essential liquid is water, and, as Professor A. Buchanan has well put it, every addition of alcohol is simply an adulteration? We may go further, and aver that the beneficial soluble properties of "the water of life" are only impaired by any alcoholic adulteration.

Again, what warrant has our author for the assertion that "alcohol is most advantageous to many of those who have been brought up to its moderate use"? We know of none. Alcohol is not an element of our physical or mental organisation, and we have yet to learn that the highest state of health is incompatible with total abstinence. Science has adduced no proof of the usefulness of alcohol as a beverage; but, on the contrary, bears witness that intoxicating liquors are neither necessary nor useful as an ordinary article of diet. The experience of an innumerable array of witnesses, in every rank and condition of life, and in all circumstances, affords ample confirmation of the verdict of true science. At the best alcohol is but a luxury, as Sir Henry Thompson says, "always to be paid for."

Will it be credited that, after all the light thrown by chemistry and physiology in recent years on the properties and action of alcohol, Dr. Haynes, while prohibiting spirits, allows intoxicating liquors to the nursing mother. "If necessary, she can have stout or ale, but not more than half a pint of either twice a day." The only useful element in malt liquors, in such a condition, lies in the diastase they contain. Would it not have been wiser, as well as more accurate, if Dr. Haynes had stated that in so far as fermented malt liquors contained alcohol they were injurious, and that their useful constituent—diastase—could be had, at much less cost, in combination with other valuable food elements, and without the dangerous narcotic, in maltine and the various non-alcoholic malt extracts?

Dr. Haynes is too lax in his dealing with fermented wines. While he admits that sherry is often injurious from its acidity, and port from its astringency and sweetness, he apparently approves of the use of clarets, hocks, Rhenish, Hungarian, and Australian wines, as he says these latter are usually free from

the stated drawbacks of sherry and port. This loose semi-approval of a large group of wines, among which are to be met many heady and strongly alcoholic varieties, is, in our judgment, unworthy alike of the profession and the reputation of our author.

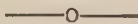
The impression on the mind after a perusal of the pamphlet is that, in the author's opinion, ardent spirits are powerful articles, their use involving very often the risk of excessive indulgence, which, when taken, should be largely diluted with water, and which ought to be resorted to "only when required." But with regard to wine, there is a different impression left on the reader's mind, viz.: that though port and sherry are apt to cause indigestion and other physical disorders, fermented wines in general are, in moderation, harmless and useful. That this is sound doctrine few modern physiologists will affirm. Very different was the emphatic declaration of the leading physicians and surgeons of this country thirty years ago, when they boldly characterised the use of all intoxicating drinks as unnecessary, and deliberately stated it as their belief that total abstinence from all intoxicants would greatly promote the health, prosperity, morality, and happiness of the human race. The conclusions of modern physiological inquirers are to the same purport. As Mrs. Ernest Hart wisely said, in a recent lecture, "Alcohol is not food but physic; it is a useless luxury and extravagance—a potent medicine and poison, and a dangerous article of daily diet."

While we have reluctantly discharged the painful but imperative duty of exposing the error and unsoundness of some of Dr. Haynes' observations on strong drink, we gladly acknowledge the candour and impartiality which he has displayed in dealing with the question of stimulants. Most cordially do we commend his advice to keep alcohol from children. His remarks on this important head are so true and apposite that we owe our readers no apology for an extract:—"I believe children ought to be reared without the taking of alcohol in any form. No kind of cordial, spirits, or other nostrum should be given by the mother or nurse to make the child sleep." Dr. Haynes bears ungrudging testimony to the "vast good" achieved by temperance societies, and also unreservedly confesses that those adults "who can do without, are better without alcohol, because the amount of stimulation produced by it is followed by a corresponding amount of depression of vital force." From these and other admissions we judge that Dr. Haynes is thoughtfully considering the whole question, and we have a strong hope that he will, ere long, see his way to the only definite solution of the drink problem—total abstinence. That the spirit in which his most interesting and instructive work

is written indicates an advance in the general medical mind, there can be little doubt. He is too ardent a philanthropist, and too impartial an inquirer, to wilfully shut his eyes to the true teaching of science and experience, and we cannot doubt that he will speedily discern the truth about alcohol. When the scales fall from his eyes, the cause of temperance will have no doughtier champion; under our bloodless banner will fight no worthier soldier than the accomplished author of the popular little treatise now before us.



Proceedings of the British Medical Temperance Association.



THE Quarterly General Meeting of the Association was held in the rooms of the Medical Society of London, on Friday, February 11th, 1881. Dr. Richardson presided. The minutes of the previous meeting having been read and confirmed, Dr. G. B. Clark gave an address on "Ava, the Polynesian Intoxicant: its Physiological

Action and Therapeutical Uses." A discussion ensued, in which the comparative action of various intoxicants was reviewed by Drs. Richardson, Clark, Drysdale, Gray, Kerr, and Ridge, after which a vote of thanks was unanimously accorded to Dr. Clark.

NOTICE.

The Annual General Meeting will be held towards the end of May.

NEW MEMBERS.

Dr. R. Erskine, London.	S. R. Lidjard, Esq., London.
V. Horsley, Esq., London.	W. Pearce, Esq., B.Sc., London.
D. De Vere Hunt, Esq., Bolton.	Dr. Pullin, Sidmouth.

NEW ASSOCIATES.

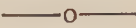
B. G. Pullin, Esq. . . .	St. Bartholomew's Hospital.
P. M. Scatliff, Esq. . . .	St. George's Hospital.

Enfield, March, 1881.

J. J. RIDGE, M.D., *Hon. Sec.*



Miscellaneous Communications.



THE USE AND ABUSE OF ALCOHOLIC STIMULANTS.*

By PROFESSOR THOMAS R. FRASER.

By “stimulants” I think we all mean beverages that are capable of producing in large quantities intoxicating effects. I do not think, when we use this word, we generally mean such substances as tea and coffee, though they also may be correctly spoken of under the same designation. The stimulants I wish to say a few words about to-night, are such beverages as whisky, wine, and beer,

all of which owe their leading properties to a liquid contained in them called alcohol, which you may know in its nearly pure form of “spirits of wine.” For this reason, they are spoken of as alcoholic stimulants. In whisky, wine, and beer, the alcohol is mixed with water, and, accordingly, the alcoholic strength of these beverages varies considerably, as you will see from the table:—

TABLE I.—Percentage by volume of absolute Alcohol in several common Alcoholic Beverages, with the quantity of the Beverage representing about one ounce of absolute Alcohol.

BEVERAGES.	Percentage of absolute Alcohol.	Average percentage of absolute Alcohol.	Quantity representing about one ounce of absolute Alcohol.
<i>Spirits—</i>			
Brandy	50 to 60	50	2 ounces, or 1 small wine glass.
Whisky	50 „ 60		
Gin	49 „ 60		
Rum	60 „ 77		
<i>Strong Wines—</i>			
Sherry	16 „ 25	20	5 ounces, or 2 wine glasses.
Port	16 „ 23		
Madeira	16 „ 22		
Marsala	15 „ 25		
<i>Light Wines—</i>			
Bordeaux (Clarets)	6·8 „ 13	10	10 ounces, or 4 wine glasses.
Rhone	8·7 „ 13·7		
Champagne	5·8 „ 13		
<i>Malt Liquors—</i>			
Beer	1·2 „ 10	5	20 ounces, or 2 tumblers.
Ale			
Stout			
Porter			

They may also contain sugar, acids, and other substances which produce some differences in their effects. Their

chief effects, however, depend on the

Abuse of Stimulants and Tobacco,” delivered in the Free Assembly Hall, Edinburgh, January 29, 1881.

* From a Lecture “On the Use and

alcohol they contain, and for the sake of simplicity, therefore, we may ignore the other substances, and consider only the effects of the alcohol.

Let us consider these effects; but before doing so in detail, I should first point out that they vary greatly according to the quantity that is taken. This is so obvious, I need scarcely dwell upon it. We know that with everything that produces effects the quantity that is taken modifies the degree and apparently even the kind of the effects. A small pinch of salt is a pleasant and almost indispensable addition to the meat or potatoes we eat; but one or two tablespoonfuls of it produce very quickly sickness and vomiting. A very little whisky and water makes one feel warm, and perhaps a little light in the head; a wine glassful of whisky will make many people intoxicated and unable to walk steadily or speak distinctly; and a tumblerful will soon render them insensible, and probably act so decidedly as a poison that it will quickly produce death.

In speaking, therefore, of the effects of alcoholic stimulants, we must bear in mind the differences in the effects that are due merely to the differences in the quantity taken.

First let me speak of the effects or action upon the stomach and digestion. When a small quantity is taken, the juices which are poured out from the stomach walls, and which are necessary for the digestion of food, are increased, and the food is more rapidly and thoroughly digested. This occurs only if the small quantity is mixed with much water — is well diluted, in short — and unless it be well diluted, digestion is not made more rapid, but it is impeded and less perfectly performed than it should be. Heartburn, pain, and other signs of dyspepsia follow, and they become uncomfortable and only too familiar monitors, whose hints are, however, very frequently neglected by those who habitually partake of undiluted or insufficiently diluted spirits when there is little or no food in the stomach. If the insufficiently diluted spirit, or even if sufficiently diluted

spirit, be often taken, then the structure of the stomach becomes changed. It becomes inflamed and thickened, and incapable of producing a large enough quantity, or a proper quality, of gastric juice to digest food; and from this it follows that dyspepsia of a lasting or chronic kind is caused.

When the alcohol is introduced into the stomach, however, it does not remain there. Part of it at once passes into the blood-vessels in the walls of the stomach, and is in that way carried through the whole body. Many other parts of the body besides the stomach are consequently affected by it. Even a small dram, for instance, makes the face, neck, and hands redder than they previously were; showing that the state of the circulation has been modified. If we examine the circulation a little more, we will find that the pulse at the wrist beats faster, and becomes larger and more full, and that the strokes of the heart are stronger. When these changes take place, we know that the blood is flowing more quickly and in larger amount; and that this implies an increase in the supply of blood to the different organs of the body. Such an increased supply is very likely to be followed by an increase in the activity of the organs receiving the blood, for their activity depends partly upon the quantity of blood they receive. I wish to direct your attention particularly to this action of alcohol, for it is the action which has led chiefly to the reputation alcohol has gained as a *stimulant*; as a substance which stimulates or excites, for example, the appetite, or the digestion, or the brain, and which makes it remove the general state of the body which we speak of as fatigue. Now, I think there can be no doubt that it does all this; but you are not to think that it is the only substance which can do it, and much less are you to think that it can be used for this stimulating purpose without risk. The conditions in which it may be employed are those in which the parts of the body I have referred to are in an abnormal or not perfectly healthy state, and accordingly it should be used as a stimulant only in those states. In a healthy state, the

stimulating action results in the production of injurious rather than of beneficial changes, even if only a moderate quantity be taken, and much more if a large quantity be taken; or if any quantity able to produce distinct stimulation be frequently taken. If, indeed, a large quantity be taken, stimulation is not observed, but an opposite effect. The large quantity undoubtedly acts as a poison, quite as distinctly as arsenic or prussic acid: and in books on poison, instances are recorded in which death has followed a short time after the drinking of large quantities of alcohol in the form, for example, of whisky.

The stimulating effect upon the circulation is, in other respects also, of an undesirable description, and it is not generally productive of real benefit to the individual. For example, it has led to the notion that alcohol is able to make one warm, that it is a substance that raises the temperature of the body. This notion is very much due to the sensation of heat, to the glow which results from the blood-vessels of the skin becoming dilated. It prompts the street porter to make frequent visits to the convenient public-house during cold weather, and the driver of the stage-coach to take "a glass" at each inn before whose door his coach draws up. But it is entirely erroneous for them to suppose that each glass of whisky actually increases the temperature of their bodies. The dilated blood-vessels which suggest to them that alcohol is a warming substance, in reality cause a reduction of temperature, by permitting a rapid cooling of the blood when the surface is exposed to cold; and therefore the street porter soon fancies that another glass of whisky would do him good, and the coachman is only too impatient to see the sign-post of the next inn. The dilated vessels also permit a *sudden* cooling of the blood to take place; and so it is that diseases of the kidneys, of the liver, and of the brain, which are of frequent occurrence in those exposed to vicissitudes of climate, are not altogether to be explained by climatic influences.

This dangerous or bad effect of alco-

holic stimulants has, I have little doubt, been productive of much injury during the Arctic winter which I trust has now left us. We know that it actually does so in the Arctic regions. Travelers have found that in any shape they are not only completely useless, but positively injurious. They stimulate for a short time, and make one feel warm for a short time, but exhaustion occurs more quickly, and the cold becomes more difficult to bear when they are used. The last Arctic Expedition from this country—that of Sir George Nares—was not so successful, you may remember, as everyone wished; and the committee which inquired into the causes of its failure had a great deal of evidence brought before it by the officers and sailors who took part in the expedition, and also by many former Arctic travellers, as to the value of stimulants and different foods in cold climates. I see that Admiral Inglefield—with whom I served as a member of the committee—has written a letter in which the result of that evidence is very fairly stated. It was that to take alcoholic stimulants to keep out cold is a fallacy, and that nothing was more useful for that purpose than a good fatty diet, with hot tea or coffee, and not spirits, as a drink.

This was also the experience of the leaders of Napoleon's campaign into Russia, and the monks of St. Bernard find that death from cold is hastened by alcoholic drinks.

Let us now consider if the nutrition of the body is in any obvious manner affected by alcohol. It is every day observed that many drinkers of alcohol grow stout, and even uncomfortably fat. The explanation of this is to be found in the fact that alcohol lessens the waste of substances in the body, whether these be of the nature of food or of formed tissues, and also somewhat facilitates the absorption of the fatty portions of the food from the stomach. We accordingly see why those who drink alcohol even moderately, especially if at the same time they consume food rich in fat (or, what leads to the same result, in sugar or starch), are apt to become stout from

a deposit of fat taking place under the skin; and why those who take alcoholic stimulants immoderately are, in addition, very likely to have fat deposited in some of the organs of the body where its presence constitutes the disease, fatty degeneration.

We are, also, able to understand why stimulants, which not only stimulate, but also lessen the changes in the constituents of the body and of food, are for this reason specially injurious to young persons. The forming of the tissues and structures of which the body is composed requires that the constituents of these tissues, and the foods from which they are made, should be allowed actively to rearrange themselves into appropriate forms and compounds, and everything which interferes with these rearrangements retards growth and nutrition. As growth and nutrition should be allowed to proceed unchecked in persons whose bodies are growing, alcoholic beverages must act most injuriously on young persons, and, apart from every other reason, their frequent use, and much more their use as daily articles of consumption by children who are not suffering from illnesses which may require them to be given medicinally, is undoubtedly prejudicial to their physical development.

It is, however, commonly asserted that alcoholic stimulants are *foods*. A great deal of trouble has been taken to find out if this is the case or not. I think some of the most satisfactory, because eminently practical, observations that exist to assist us in deciding this very important question have been made by a distinguished physiologist and physician of America, Dr. Hammond. He tested the food value of alcohol upon himself in this way: During a few days he lived on a diet that was *sufficient* to maintain the body at the usual weight and in a healthy condition; during a second equal number of days he lived on a diet that was *insufficient* to maintain the body at the usual weight, for while living upon this diet weight was lost; and during a third equal number of days he lived on a diet that was *more than sufficient* to maintain the body

at the usual weight. During each of these three series of days he daily took the same, and only a moderate, quantity of alcohol in the form of wine. He found that the addition of alcohol had the effect of increasing the weight of the body, whether the food was sufficient, insufficient, or more than sufficient in amount—a result which you are not unprepared to learn from what I have already told you of the effects of alcoholic stimulants upon nutrition. He found, however, more than this, for while the alcohol seemed to supplement the sufficiency of food when an *insufficient* diet was taken, it produced disturbances in health when the food was either sufficient, or excessive in amount—such disturbances, for example, as palpitation, rapid pulse, dyspepsia, laziness, and indisposition for mental or physical exertion; the disturbance of health being greatest during the days in which an excessive amount of food was taken.

There is one lesson, at any rate, which these experiments most emphatically teach, and that is that alcoholic stimulants are altogether unnecessary as foods where a sufficient quantity of ordinary food is being taken.

When the food is sufficient, or more than sufficient, they produce disturbances in health, some of which I have told you of. They were produced within the very few days during which Dr. Hammond's experiments were continued. But in the numerous experiments for objects totally unconnected with science, which are being made on all sides, and by all classes, the use of the alcoholic stimulants is not restricted to a few days or even weeks, and the effects produced are not the mere temporary ones that I have mentioned. These temporary effects are to be explained by the alcohol acting directly upon the stomach, and then, after it is absorbed into the blood, acting upon the heart and blood-vessels, the brain, liver, and many other important organs. If such consequences can follow an action restricted to a few days, it would be foolish to suppose that more serious and more perma-

ment effects will not follow on an action extending over months and even years. It would also be contrary to the facts daily brought under notice to make this statement. We physicians have, unfortunately, only too good reason to know that the stomach becomes unable properly to digest food, that the brain becomes enfeebled, that the liver and kidneys become unable to perform their necessary functions, and that the heart and blood-vessels become unfitted to circulate the blood, as a result of disease in the structure of each of these organs, directly caused by the habitual use of alcoholic stimulants in excessive quantities, and even in quantities which many persons would not regard as excessive.

One of the series of experiments I have referred to indicates that alcohol may act as a food. Its applications as a food are very limited. It may supplement an insufficient dietary, where insufficiency is an unavoidable condition; and illustrations of this use of it are to be found in the record of sieges, as in that of Paris during the Franco-German war. It is to be recollected that it is an expensive food, and also that, while it acts as a food, it at the same time lessens the activity of nutrition, upon which the production of force depends. Men undergoing great and prolonged physical exertions work as well, if not better, without alcohol as they do with it. The experience of recent campaigns which have been successfully conducted on total abstinence principles, have proved that

men in a healthy condition, and supplied with a sufficient amount of food, retain their health, and are capable of performing the most arduous labour, in every variety of climate, without alcohol. And further, in some of these campaigns opportunities were afforded for observing that the addition of alcohol to the diet may actually diminish the capability for prolonged physical exertion.

When we direct our attention to mental work, I believe the same conclusion must be arrived at. The stimulating action on the brain of quantities far short of intoxicating, is accompanied with a paralysing action which seems most rapidly and powerfully to involve the higher faculties. Mental work may seem to be rendered more easy, but ease is gained at the expense of quality. The editor of a newspaper will tell you that, if he has been dining out, he cannot with confidence write a leading article until he has allowed sufficient time to elapse for the effect of the wine he has drunk in moderation, to pass away; and even the novelist, whose brain-work is in the regions of imagination, will relate a similar experience.

Now, ladies and gentlemen, I have to some extent illustrated the results that follow the use of alcohol and the injurious consequences that follow its abuse. The latter, as we have seen, include the production of several diseases; and, as you might expect, these diseases have an effect upon the duration of life. Let me now direct your attention to some tables in which this effect is plainly shown:—

TABLE II.—*Ratio per cent. from the undermentioned Causes to Deaths from all Causes.*

Cause of Death.	1847.	Gotha Life Office.	Scottish Widows' Fund.	Intemperate Lives.
Head diseases	9·710	15·176	20·720	27·10
Digestive organs (especially the liver)	6·240	8·377	11·994	23·3
Respiratory organs	33·150	27·843	23·676	22·98
Total of the above three classes	49·100	51·396	56·390	73·38

TABLE III.—*Expectation of Life among the Temperate and Intemperate.*
(Derived from rather limited data.)

A Temperate person's chance of living is—	An Intemperate person's chance of living is—
At 20 = 44·2 years.	At 20 = 15·6 years.
„ 30 = 36·5 „	„ 30 = 13·8 „
„ 40 = 28·8 „	„ 40 = 11·6 „
„ 50 = 21·25 „	„ 50 = 10·8 „
„ 60 = 14·285 „	„ 60 = 8·9 „

TABLE IV.—*Mortality among Intemperate Spirit and Beer Drinkers.*

Spirit drinkers	5·996 per cent. (nearly 60 per 1000).
Beer drinkers	4·597 „ (nearly 46 per 1000).
Spirits and beer drinkers ...	6·194 „ (nearly 62 per 1000).

This effect upon the duration is also shown when a comparison is made between the expected and actual claims in the temperance and general sections of insurance companies. In the case of one insurance company, the results of such a comparison have been communicated to me through the kind interest of one of my colleagues, Professor Calderwood. It shows that while the claims in the temperance section are 30·5 per cent. below the expected claims, in the general section they are only 0·7 per cent. below the expected claims.

The statements I have now laid before you are sufficient to show that the use of alcohol is very limited, while its abuse is productive of many injurious consequences. Its employment as a daily beverage cannot be justified on the ground that it increases the capacity for work, that it makes the body warm, or that it acts in ordinary conditions as a food. We are entitled to assert that the chief justification that can be advanced is that it is a luxury. No doubt, to

many, the reprehensible pleasure of intoxication, in some of its degrees, is the main inducement that leads to abusive indulgence in it. In that case, it certainly leads to, if it be not a mere evidence of, mental and physical degradation. But, whatever be the inducements to immoderation, we must not conceal from ourselves that it is often originated and strengthened by erroneous notions regarding the effects of alcoholic stimulants, and by the condition in which many persons exist.

Too often a craving for alcohol is originated and encouraged by insufficient and badly cooked food, and by the overcrowding and the defective ventilation of dwelling-houses.

The removal of the erroneous notions to which I have referred will probably effect much good; and a great reduction in the amount of intemperance may be expected to follow the improvements which are now being carried out in the sanitary condition of our large cities.

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ALCOHOL IN MEDICAL PRACTICE.
—Dr. J. James Ridge, the hon. sec. of the British Medical Temperance Association, has republished in cheap pamphlet form a paper he read at a conference in Bristol in October last, in which he deals with the question: "What are medical men to say about alcoholic beverages?" Without en-

tirely following Dr. Ridge in all that his deductions lead to, we are prepared to grant that he has very much evidence on the side he supports; and, further, that an altogether unjustifiable amount of indiscriminate stimulant-ordering is indulged in by physicians.—*Medical Press and Circular.*

DEFECTIVE NERVE-POWER AS A PRIMARY CAUSE OF DISEASE, WITH ITS SPECIAL RELATION TO DIPSOMANIA.*

By STEPHEN S. ALFORD, Esq., F.R.C.S.

MUCH of my time of late has been devoted to efforts for promoting the recovery of dipsomaniacs. Those lapsing into dipsomania are generally of a highly nervous, sensitive, lively temperament. This condition often has its commencement in mistaken efforts to sustain exhausted nerve-power, arising from continued overstrain, and irregular work at high pressure; or from hereditary inability to endure the ordinary stress and troubles of life; or from a system exhausted by indulgences and late and irregular hours; or even by indolence and *ennui*, each and all being modified by circumstances of society and atmospheric and climatic conditions. In studying these cases and their etiology my attention has been directed to the harmful effect produced by the above causes acting on defective nerve-power.

As an old practitioner I do not pretend to enter into the new physiological or pathological researches as to molecular disarrangements, but trust the few practical observations I can make may lead to a discussion on this subject. Surely the effect of low nerve-power is not sufficiently recognised as a primary cause of disease. If the nervous system, including the cerebral, spinal and sympathetic centres, with the sensorial and motor nerves distributed over the body, form its working, regulating, and protecting power, it is evident that their defect, or disarrangement, more or less interfere with the functions depending upon them. We know for instance that even when the nerve-power is only temporarily defective, the controlling influence of the vaso-motor nerves may so fail that the smaller blood-vessels lose their elasticity, and, becoming distended with blood, produce the appearance seen in

blushing. We further see this in the face of the drunkard, as the effect of repeated stimulation; the vessels, from being frequently dilated, become at length, permanently enlarged.

Does not deficient nerve-power, as exhibited in the form of insufficient control over the vaso-motor nerves, cause the first dilatation of the smaller blood-vessels, which by being intensified, or frequently repeated, may pass into inflammation? Or, further, by producing a modified, increased flow of the vivifying stream may not this defective nerve-power so interfere with the nutritive processes as to cause perverted deposits and dangerous structural changes, as exemplified in tubercle, cancer, and other destructive formations, which occur in an asthenic condition of the system? Thus what is ordinarily a healthy reparative process becomes in our system, by defective controlling nerve action, a destructive power which may end in death.

The effect of defective, or irregular nerve-power is also evident in glandular secretions, on which depend the functions of important organs, the natural secretion being either increased, diminished, or perverted. This is exemplified by the action of the nervous system in producing a deficiency or superabundance of bile, or in the formation of an excess of sugar, as in diabetes. Similar disarrangements of healthy action may occur in any of the secreting organs when the exciting, controlling nerve-power is out of gear. Most of the ailments from which we suffer seem to depend, in the first place on defective nerve action.

As preservers of health it behoves us to endeavour to arrest the evil at its source; we must not treat symptoms alone: much time and suffering may be saved by tracing a disease back to its primary cause, so as to have reliable principles of action.

* A Paper read before the North District of the Metropolitan Branch of the British Medical Association, March 24th, 1881.

By thus recognising the primary disturbing cause, and preventing the first run down of nerve-power, much may be done to arrest disease.

The neurasthenic or low nerve condition is first recognised by lassitude, as even in a more marked form in the utter prostration which precedes acute attacks of disease. Whenever we feel tired and overdone, Nature plainly tells us she is exhausted, and will not be neglected with impunity. To force her by stimulants to continue work is a dangerous experiment, which, if often repeated, will sooner or later end in a complete break-down. But while yielding to this needed repose, other functional derangements may need attending to.

Insomnia, with drowsiness and gaping, is a distressing condition arising from cerebral exhaustion; it does not so much produce special local affections as a miserable misanthropic state. The true restorer from this condition is rest, with a carefully regulated diet, avoidance of stimulants, and general attention to the secretions; these may be beneficially supplemented by mild nerve tonics.

Sick headache is an early symptom of nerve exhaustion, and the rest which it enforces upon us often prevents other dangerous attacks. Sick headaches chiefly prevail during the more anxious and active period of life—between the ages of fifteen and fifty.

Hay fever is another nervous idiosyncrasy attacking those whose nerve powers are on the stretch; barristers and other close mental workers being especially liable to it.

There are numerous morbid fears arising from deficient nerve-power, such as fear of places, fear of society, dread of being alone, apprehensions of various kinds—causeless, but real and distressing; fear of everything and everybody. Any function may be more or less disturbed, simulating real disease, and in this respect resembling hysteria, although hysteria generally arises from some special local cause. Spinal exhaustion is manifested by restlessness and physical excitement.

Dr Beard, of New York, has devoted

special attention to this subject. For its fuller treatment I refer you to his numerous publications. He calls this nervous exhaustion neurasthenia.

The past neglect of this negative nerve condition has resulted in much erroneous treatment, and often the aggravation, rather than the alleviation, of disease.

Exhausted nerve-power may arise either from excessive, late, or irregular mental work, unhealthy employments, contaminated air, intemperance in any form, indolence or *ennui*, climatic influences, or the exactions of society, and other apparently unavoidable artificial conditions of life. It frequently arises from hereditary causes. Unless brought under early and careful treatment, neurasthenia may lead to melancholia, dipsomania, epilepsy, insanity, and other distressing conditions. The treatment must be chiefly directed to general regimen, aided by mild nerve tonics and electricity.

Dipsomania, or inebriety, is defined by Dr. Beard as "a fundamental disease of the nervous system, primarily of a functional character."

Dipsomania, as well as insanity, chorea, neuralgia, and other diseases of the nervous system, must be considered scientifically as belonging to the departments of neurology and psychology. It is associated with periodic mental depression insomnia general nervousness, tremors, mental irritability, hallucinations, moral decline, and, in some cases, trance, any or all of which conditions may precede, accompany, or follow an attack. These symptoms, however, are not found in all cases, nor in the same case at all times, but each paroxysm is invariably connected with an irresistible craving for stimulants opium, or chloral.

Dipsomania and mere drunkenness are two distinct conditions. The former is irresistible, independent of the ordinary efforts of the will, often quite unconnected with temptation, and arises from an individual condition; whereas drunkenness depends more on outside allurements. Like neuralgia, hay fever, and insanity,

dipsomania is periodic; whilst the vice drunkenness is constant, or only modified by external circumstances, dipsomania may be either hereditary or the result of an inherited nervous diathesis, and transmitted like other family diseases. Drunkenness, it is true, may arise from an inherited vicious temperament, but can be distinguished by the character of the individual.

Dipsomania or inebriety may be sudden in its attacks following—

The action of physical injury, direct or indirect, such as blows on the head, concussions of the brain, or spinal cord, sun-stroke and its effects, any traumatic injury that disturbs the harmony of the organism; diseases of both a local and constitutional character which affect the system also react in this way; hæmorrhage, typhoid fever, rheumatism, and nearly all disorders of the stomach and liver, which break up and pervert healthy nerve power, are liable to react in inebriety. After severe injury or disease the natural nerve vigour is lowered, and departure from health comes on quickly. Neurasthenia or asthenic nerve-power is the common indication in these cases of the departure from health. Neurasthenia is to the nervous system what anæmia is to the blood.

Inebriety also results from psychological causes, as in depressing disappointments, hereditary nervous susceptibility, malformations of organs, or defective powers, either in function or structure, which may be diverted into inebriety from the slightest exciting cause, or the desire to relieve exhaustion. Inebriety may be the result of long-continued painful emotions, either of fear or joy, bad company, exhausting indulgences, or the mysterious effects of mind over body, all forms of suspension, alteration, and change in action of mental functions.

Whenever the strain in the nerves and brain is beyond a certain stage exhaustion follows, for which stimulants are taken. Inebriety is a craving to satisfy this want, and the greatest effort of will is powerless to resist the infatuation for stimulants.

It is important to diagnose between

dipsomania and drunkenness, since the efforts for the treatment and recovery of dipsomania do not apply to the mere drunkard, and may be even of little avail for him. The man who drinks recklessly from companionship and sociability is very different from one who, in spite of most earnest striving to avoid drinking, is irresistibly impelled to do so. We can no more draw distinctly the line of demarcation between drunkenness and dipsomania than we can determine precisely where day ends and night begins. Inebriates generally have a strong desire to overcome their failing, although, when unaided, they are powerless to do so.

As in other nervous diseases the mind can be made to act on the body, so that when stimulants are withdrawn, it then forms an important element in assisting the recovery.

An inebriate, during the intervals, has no desire for alcohol. This is not the case with the drunkard, who is always ready for his beverage. The inheritance of inebriety follows the same laws as other nervous diseases. Drunkenness and inebriety are allied to each other much as eccentricity is allied to insanity, the former often passing into the latter.

One of the chief predisposing causes of inebriety is civilisation, entailing, as it does, in its modern development, so great an expenditure of nerve force, and its action in this way is seen more amongst the higher and middle class, and those who live by brain and indoor occupations.

Inebriety has arisen amongst us and progressed, *pari passu*, with other nervous diseases, to which class it belongs. The exciting causes of inebriety are stimulants, opiates, and chloral, which, by acting in a secondary manner upon low nerve power, produce the diseased condition known as dipsomania.

In America an apparent paradox exists, for, while there is less excessive drinking and more total abstinence than in any country of the world, still there is more inebriety. The explanation of this is found in the fact that from climatic and other surrounding

circumstances stimulants can scarcely be taken by a nervous temperament, even in moderation, without inducing inebriety. There is universally an absence of stimulants at all meals in the United States.

Atmospheric influence is another undoubted exciting cause of this affection, as sometimes indicated by the production of a paroxysm from exposure to sea air, easterly winds, and other similar changes.

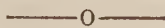
The treatment of inebriety must be carried out on the same general principles as for all other nervous diseases. Firstly, by the removal of the exciting causes, and, secondly, by fortifying the system with sedatives and tonics. The exciting cause can only be effectually removed by confinement in a retreat, thus separating the patient from alcohol, opium, or chloral. The necessary period of restraint varies from a few months in mild cases, to even years in the more confirmed cases. When the care and treatment of inebriates are more generally recognised, and effectual opportunities exist, so that cases can be treated in early stages, greater success will be obtained. In America it is estimated that one-third of inebriates under treatment recover, another third are restored for a time, and the remainder are unaffected by treatment. This is as large a proportion of recoveries as we find in any other class of disease; in insanity only one-tenth of those under treatment are restored to health.

As special treatment we find that while the patients are under the alcoholic influence, bromides, in large doses of $\frac{3}{4}$ i to $\frac{3}{4}$ ii, freely given, are of

decided use. Diluents of barley-water with lemon-juice, butter-milk, or similar drinks, form an important feature of treatment in the early stages, acting as diaphoretics and diuretics, and thus clearing the system. Vapour-baths have a useful and soothing effect, and divert and occupy the attention. Cannabis indica is useful to promote sleep and sooth the patient. As soon as the restless craving has abated we must order exercise and light occupation, together with a mild diet, including a free use of fruit, but avoiding butcher's meat. The red cinchona bark is certainly useful in restoring nerve-power, while caffein and coca can be taken when special nerve exhaustion arises. The various nerve tonics—as quinine, arsenic, and strychnine—can be given with benefit. Iron is not so useful unless in the presence of anæmia. Total and constant abstinence from stimulants is essential.

After recovery, to prevent a relapse, as well as in the course of treatment, religion certainly has a fortifying influence in aiding the resistance to the craving which will return from time to time. It is also important to avoid old associations and habits. My observations in America have convinced me that, under judicious management, a large proportion of dipsomaniacs may be recovered.

At present no sufficient opportunity exists for their treatment. Efforts are being made to establish a pattern inebriate home in this country, and a meeting is to be held at the Mansion House, on the 17th May, at three p.m., to start such an institution, to be called the Dalrymple Retreat for Inebriates.



ALCOHOLISM IN SWEDEN.

THE fourth number of volume xii. of the *Nordiskt Mediciniskt Arkiv* contains a summary of a paper, read by Dr. Gerhard Westfelt, before the Swedish Medical Society, and published in the *Svenska Läkarsällskapets nya Handlingar*, Series 2, vol. vii.,

on the statistics of alcoholic abuse and its results in Sweden during the years 1861 to 1877.

The author says that, about fifty years ago, when the excessive use of strong drink was at its height, the quantity consumed during the year was

about 50,000,000 *kannor* * (28,801,500 gallons) in the whole kingdom, or nearly ten gallons for each individual of the population. After this there was a further increase. In 1855, legislation on the subject took place; and from that year to 1860 the average yearly amount was thirteen to fourteen millions of *kannor* (6,488,390 to 8,064,420 gallons).

Comparing the amount of alcoholic drinks used with the results of intemperance as shown in the statistics of disease and mortality for the several years 1861 to 1877, the author finds a close proportion between the figures. This is shown in a table; and the average result for the seventeen years is as follows:—

Average amount of alcoholic liquor (containing 50 per cent. of alcohol) consumed by each individual = 4.02 *kannor* = 2.3 gallons.

Average ratio of alcoholic disease in each 100,000 of the population of the kingdom = 14.

Average mortality from alcohol in towns in 100,000 of the town population = 19.

During the years 1867-68-69, the average amount of alcohol consumed and the rates of disease and death therefrom were at the minimum (viz. 3.11, 2.85, and 3.03 *kannor* of alcohol; 11, 6, and 7 cases of disease; and 11, 9, and 14 deaths). After this there was an increase, and in 1874, the amount of alcohol consumed was the greatest in any of the seventeen years, being at the rate of 5.14 *kannor* for each individual; while the disease-rate, calculated as above, was 21 (the greatest in any year except 1876), and the death-rate in the towns 30 per 100,000 or 3 above any other year, and more than three times as great as in 1868.

A comparison with other countries shows that the average yearly consumption of alcohol by each individual during the years 1872-76 was as follows: in Denmark, 7.4 *kannor*; Sweden, 4.6; Russia in Europe, 3.8; North Germany, 3.7; Holland, 3.5;

Belgium, 2.7; Great Britain and Ireland, 2.4; Norway, 2.3; Finland, 2.2; France, 2.

The statistics of sudden death after the abuse of alcohol, which in Sweden go back as far as 1802, show a marked decrease since 1852, when the maximum of 94 deaths was reached. From 1841 to 1850 the yearly average was 67.1; from 1851 to 1860, 59.5; from 1861 to 1870, 28.6; and from 1871 to 1877, 22.7.

According to official reports obtained from all the civil and military hospitals in the kingdom, the total number of cases of chronic alcoholism and delirium tremens admitted during the years 1861-77 was 10,287, and the number of deaths 700; the yearly averages being 605 and 41 respectively. The minimum of cases both of disease and of death was met with in 1868 (244 of disease, and 18 of death); the maximum of disease (1,067) in 1867; and the maximum (67) in 1874. These numbers, however, represent only a small proportion of the cases occurring in the whole kingdom, and have, therefore, only a relative value. In Stockholm during the period under notice, there were 6,371 cases of alcoholic disease, or a yearly average of 375 (the maximum being 692 in 1876, and the minimum 100 in 1868). As regards sex, it appears that during the years 1874-77, the percentage of males among the cases of alcoholic disease was 96, and of females 4. As regards age, the percentage between the age of 21 and 40 was 55.6; between 41 and 60, 41; above 60, 3; and under 21, 0.4.

The certified deaths from alcoholic diseases in the whole kingdom during the seventeen years were 1,742, or a yearly average of 102; the minimum being 49 in 1868, and the maximum 179 in 1874. The average death-rate among the urban populations was 19 per 100,000: being in Upsala, 25; in Helsingborg, 25; in Stockholm, 26; in Sundsvall, 31; in Malmö, 33; and in Södertelje, 60. The proportion among the sexes was 96 males to 4 females. As regards age, the percentages were—85 between 25 and 55,

* The Swedish *Kanna* is = .576 English gallon.

10 between 55 and 65, 3 above 65, and 2 between 20 and 25.

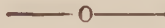
In Stockholm during 1874, about one-twentieth, and in 1875 about one-sixteenth, of the deaths among the male population between the ages of 25 and 55, were due to alcoholism and delirium tremens. These numbers, which express only the immediate results of the abuse of alcohol, give no indication of the entire extent of the influence of alcohol on mortality; for a number of deaths from disease arising from excess in alcohol are certified under various names, such as cirrhosis of the liver, chronic nephritis, Bright's disease, fatty degeneration of the heart and blood-vessels, cerebral hæmorrhage, &c.; moreover, the abuse of alcohol has a great share in the fatal issue of several diseases—for example, pneumonia, which, when complicated with delirium tremens, is three times as fatal as otherwise. How great this share is may with probability be inferred from the fact that the number of deaths of males from the most usual and prevalent diseases, between the ages of 25 and 55, is very considerable, and, indeed, may be said to greatly exceed that among females; while at other ages, the deaths among women exceed those among men. Of 7,354 deaths between the ages of 25 and 55 recorded in Stockholm from 1869 to 1875 as having occurred from the most usual diseases, such as phthisis, pneumonia, typhoid fever, typhus, small-pox, apoplexy, cerebritis, Bright's disease, alcoholic diseases, and accidents, 68 per cent. were in men and 32 per cent. in women; while of 8,879 deaths from the same diseases at other ages 49 per cent. were in men and 51 in women. The importance of this fact is increased by the circumstance that the number of males in Stockholm between the ages of 25 and 55 is not remarkably less than that of females; and that this inference is correct is shown by the fact that the proportionate excess of mortality of males over that of females within the above-mentioned ages in all the towns of the kingdom during the several years agrees exactly with the

proportion of deaths from alcohol and with the fluctuations in the amount of drink consumed. A year with a great consumption of alcohol shows not only a large number of deaths from alcoholic diseases, but also a great excess of deaths of males in general within the ages mentioned, and *vice versa*.

The influence of the abuse of alcohol on the mortality from violence and from accident is less distinctly shown by the statistics; but the maxima and minima of these agree with the corresponding variations in the use of alcohol. On the other hand, there does not appear to be any similar parallelism in Sweden between alcoholic abuse and suicide. Regarding the frequency of mental diseases, Dr. Westfelt calculates that at least from 7 to 12 or 13 per cent. among males, and from 1 to 2 per cent. among females, of all cases of acquired insanity in the kingdom, are due to the abuse of alcohol. Of the influence of alcoholic abuse on the progeny and race, a statistical proof is afforded in the increase and decrease of the population in certain parts of Swedish Lapland. A steady diminution of the population of the Laplandish part of Norrland commenced in 1825, and was coincident with a period when drunkenness was at its greatest height. At the end of 1840, there was a temperance movement, which exercised a widely spread influence for the better; and, in the latter half of 1850, an increase of the population commenced, and continued year by year until 1870. The proportion of males to females was influenced by the abuse of alcohol. Formerly the census always showed for the whole of Lapland a great excess of females over males; and this condition prevailed generally throughout the kingdom. In 1870, the census showed that the number of male Lapps had greatly increased, there being 1,000 to 1,039 females; while the numbers in the whole kingdom were 1,000 to 1,067 females. In the several parts of the province of Norrland there was an absolute excess of males over females.

The conclusions which the author considers himself justified in drawing from the statistics collected by him are the following. About the year 1855, a comprehensive measure of reform produced a considerable reduction in the number of cases of disease and death due to the abuse of alcohol; but this reduction was for the first time distinctly evident in the first half of the decennial period commencing with 1860. In the latter years of that decennial period there was a very distinct improvement, which reached its height in 1868, when the abuse of

alcohol and its evil consequences were less than at any other time during the whole period of seventeen years. From 1872, drunkenness again increased, and during 1874 and 1875 was greater than at any previous time since 1855. Again, in 1876, signs of diminution in the use of alcohol began to show themselves; and finally, in 1877, improvement had set in anew. These fluctuations, he says, must obviously have their source in varying economical conditions. — *British Medical Journal*.



HABITUAL DRUNKARDS IN NEW ZEALAND.

DR. FREDERICK SKAE, who, as Commissioner in Lunacy in New Zealand, is ably maintaining the distinction won for his name in connection with the treatment of the insane by his accomplished father in the days when the Royal Edinburgh Asylum at Morningside was the nursery of medical psychologists, refers in his report, presented to the Houses of General Assembly in the month of July last, to the treatment of habitual drunkards in the asylum at Christchurch, into which they are received under the provisions of the 21st section of the Lunatics' Act of New Zealand. Three habitual drunkards of each sex were in the asylum at the commencement of 1879; and two males and three females were admitted for the first time, and one female was readmitted, during the course of the year, making twelve in all under treatment. Two males and four females were discharged recovered, and two males and one female not improved, leaving one male and two females still inmates of the asylum at the beginning of 1880. In every case but one the judge's order of committal directed that the patient should be detained in the asylum for twelve months (the full time allowed by the Act) unless ordered to be discharged before the expiration of that

term. Only one, however, of those discharged during the year had remained for that time; one stayed under two months, three under four months, two under six months, and one under seven months. It can hardly be supposed that, when the moral powers have so completely broken down under the influence of drink as to justify confinement in an asylum, two or three days of repentance, or a few months of rebellious grumbling, are likely to secure recovery. A year's seclusion is not, in Dr. Skae's opinion, a day too long; but the practical difficulty is that the patient is not often of this way of thinking. The immediate effects of the alcoholic poisoning soon pass off, and no outward and visible sign of the inward and spiritual weakness remains. And when this is so, unwarrantable self-confidence speedily returns, and impatience waxes hot. The patient bewails the misery and loss that prolonged detention is entailing, and fervently proclaims an unalterable resolve to drink no more. The husband or wife of the patient, as the case may be, believes the protestations made, and the doctors on whose evidence the committal was granted are sent to review the case. The chances are that they fail to find anything the matter, and charitably

give credit to good intentions, and so the patient is discharged when the morbid appetite is not extinguished, but only smouldering, and ready to flare forth once more whenever the wet blanket of restraint is taken off it. In all cases of habitual drunkards committed to asylums in New Zealand—and some have been sent to the Dunedin Asylum as well as to that at Christchurch—the patient's maintenance is ordered to be paid at a certain weekly rate, ranging from twenty shillings to forty shillings. In seven cases, Dr. Skae intimates, the payments have been made as ordered; in one the money is expected, but in four cases no payments have been made, nor are any likely to be forthcoming. It can hardly have been the intention of the Act, Dr. Skae justly observes, that habitual drunkards should be maintained in asylums gratuitously, and, at the same time, be at liberty to pass their days in absolute idleness. Yet this is the effect when, as often happens, there are no funds to meet the payments ordered. These patients will rarely work of their own accord—they are not working men, to begin with—and they object to do anything inconsistent with their dignity as habitual drunkards, or that might reduce them to the level of ordinary lunatics, who are generally industrious. Even when their maintenance is paid for, their presence in the asylum has, as Dr. Skae declares, an injurious influence on all around them. They spend all their time in amusements or grumbling; and, with that hypertrophy of self-esteem which often accompanies an atrophy of moral character, give themselves superior airs, which are offensive to their insane companions, whom they demoralise by setting them an example of idleness, and in other ways. But in the case of those habitual drunkards who pay nothing, and who are mere broadcloth paupers, this lordly indolence is peculiarly obnoxious to the other patients, and to the officers of the asylum.

It is clear that New Zealand has

not yet solved the problem of the best way of dealing with habitual drunkards, and that its legislation on the subject has been of a halting and timid description. A lunatic asylum is not the place for habitual drunkards; and, if they are to be confined at all, they must be confined for a sufficient length of time, and under regulations of sufficient stringency, to insure their good behaviour, and their full participation in that most valuable species of moral treatment—hard labour.

It is a significant fact that, notwithstanding the very unsatisfactory state of matters which he reports, Dr. Skae is still unwilling to abandon the shred of control over habitual drunkards which the present law of his colony confers. "Great as are the annoyances," he says, "which result from the reception of habitual drunkards into asylums, and small as may be the benefits derived from it, it does not seem desirable altogether to rescind the law which provides the only means of recovery to a class of people who are a misery to themselves and others; many of whom are undoubtedly anxious to get rid of their infirmity, and some of whom succeed in doing so, and through these means. A few years of the experience of the 'retreats' for inebriates which are about to be established in England may justify the adoption of a similar plan of treatment here." We should recommend New Zealand not to wait for experience from England, but to lead the way in this important matter; and show the mother country that it is possible to restore habitual drunkards to self-respect and habitual temperance without jeopardizing the liberty of the sober population, or incurring those other risks which have been predicted whenever an effective measure has been proposed here. Under the existing law but little encouragement is given to the establishment of retreats in this country; and the experience of such of them as are started can scarcely yet be expected to be of an instructive kind.—*British Medical Journal.*

INTOXICATION AS A PREVENTIVE OF SHOCK.

(From the *Medical Times and Gazette*.)

IN a clinical lecture delivered by Dr. Stephen Smith at the Bellevue Hospital, and published in the *New York Medical Record* of December 25th, under the heading "On the Value of Partial Intoxication in the Prevention of Shock during Operations," that surgeon brought before his class a young woman from whose hip-joint he was about to extract some diseased bone. She was in the condition known as "half-seas-over," the result of the administration of six ounces of whisky in the course of the preceding five hours. Naturally she was a very sensitive person, in great dread of the operation and its publicity; but under the influence of the alcohol she had become talkative and agreeably excited, insensible to danger, &c., "in the most hopeful state of mind and body, and in good condition for the operation." Dr. Smith bases this treatment on no inconsiderable experience of the benefits that attend it, and points to the not infrequent occurrence of alarming symptoms following the administration of anæsthetics, which in some cases are followed by the fatal termination that no treatment prevents; while, if the patient do recover from the alarming depression, convalescence is slow and tedious, and the wound from the operation heals slowly and with unusual tendency to suppuration.

"An attack of this kind is not narcosis from anæsthetics, but shock, and generally in its most aggravated form. It occurs especially in those of great nervous susceptibility, or who have already suffered severely from the shock of the injury, or who are prostrated by the exhaustion consequent upon long-continued illness, suppuration, or other cause. As a preventive measure against shock in these cases during an operation, partial intoxication of the patient with whisky, brandy or rum, will be found safe and reliable,

and far preferable to quinine, opium, &c. The patient who has been labouring under great excitement in anticipation of the operation, gradually becomes quite indifferent, or even bold and daring. The pulse is full and slow, the respiration undisturbed; the ether is quietly inhaled, but little, comparatively, being required; the stage of excitement is brief, or is passed without a struggle. During the operation, however prolonged, the pulse varies but slightly, unless there is considerable loss of blood, and even in that case it retains sufficient force to allow the operation to proceed to its completion. After the operation the pulse maintains its vigour, there is slight (if any) reaction, and the temperature remains nearly normal for the first twenty-four hours."

Dr. Smith refers to the fact, familiar to all surgeons prior to the introduction of anæsthetics, that patients partially intoxicated bear operations with slight evidence of pain or shock, and make remarkably good recoveries. The first case in which he resorted to this alcoholic treatment occurred many years ago in the person of a young woman, who, upon two occasions on which it was sought to administer an anæsthetic prior to the performance of amputation, exhibited such alarming symptoms that the operation was abandoned. On the third occasion stimulants were administered several hours beforehand, until she became decidedly intoxicated, and when she had taken eight ounces she had become quite indifferent to the operation; her pulse was 96 and full, and her respiration tranquil. A very small quantity of ether was required for the completion of the amputation, during which and for twenty-four hours afterwards there was no variation in her pulse and respiration. Her recovery was rapid.

"There is another class of cases

that is very favourably affected by stimulants so administered. They are persons suffering from enfeebled condition of the heart, and are noticeably overloaded with fat. They are very liable to succumb to even a very slight shock of the operation, when combined with the effects of the anæsthetics. The face rapidly becomes dusky, the lips purple, the respiration embarrassed, and the pulse feeble and irregular. Efforts at resuscitation sometimes prove unavailing, and the patient dies upon the table. As a preventive measure we usually give an ounce or two of whisky just preceding the operation, and doubtless this often does prevent disaster by arousing the heart and invigorating the circulatory organs. But such results are far more likely to be obtained if the stimulus is steadily given, in quantities suited to the conditions and habits, for several hours preceding the operation. . . . The plan which I

pursue is to commence the intoxicant five or six hours before the operation, and give one, two, or three ounces every hour, according to the habits and condition of the patient. This patient required six ounces of whisky to bring her to her present state, the first ounce having been taken six hours ago. A few days since an old drinker required sixteen ounces to induce the condition of this young woman. I have always used whisky, and have occasionally used it in the form of milk-punch."

During the operation this patient required but little ether; the pulse continued 96, soft and full; and the respiration was undisturbed. After the operation the pulse and respiration continued unaffected; there was no evidence of shock; no fever supervened; suppuration rapidly subsided; her general condition improved surprisingly; and in two weeks she resumed her hip splint.

Notes and Extracts.

ALCOHOL IN THE WORKHOUSE.—Few subjects crop up more frequently at the meetings of Boards of Guardians than the alcohol question, and we are glad to note that the Local Government Board is enforcing its regulations against the practice of allowing beer to indoor paupers except on medical grounds. The *Medical Press and Circular* commenced on March 16 the publication of a valuable series of papers on this subject, from the pen of Dr. Norman Kerr.

THE LONDON TEMPERANCE HOSPITAL.—Last week the London Temperance Hospital was formally opened by the Lord Mayor. According to the statement read, the hospital was first opened at 112, Gower Street, on the 3rd of October, 1873, and had since relieved 954 in-patients and 8,006 out-patients. It was established to give a scientific trial to the non-alcoholic

treatment of disease; and although provision was made for the use of alcohol, should the medical staff deem it necessary in any special case, yet, in point of fact, this provision had been acted upon but once, and that without benefit to the patient herself. Many severe cases, both medical and surgical, had been treated on the non-alcoholic system with marked success, and the Board had thus been encouraged to provide the larger field of hospital practice inaugurated that day. —*British Medical Journal*, March 12.

ADMINISTERING ALCOHOL TO CHILDREN.—We believe it is not an uncommon custom in the country to administer spirits in various forms to infants and children. It is, we think, very objectionable in the absence of medical advice, and little better than the administration of opium. Two cases of death in one night—that of

twin children—are before us, both dying suddenly, at Tenby, without being seen by a doctor. They were only eight months old, and the mother's chief idea of treatment seems to have been beef-tea with brandy or sherry—very doubtful dietetics at eight months. Death from natural causes was the ready verdict, which we would slightly amend thus: Death from natural and unnatural causes. The kindness of the parents was not at fault so much as their intelligence. The medical man examined said he could not account for the death, but is afterwards reported as saying that teething was enough to explain death.—*Lancet*, Feb. 12.

THE USE OF ALCOHOL IN HOSPITALS.—The most rigid teetotaler may well be satisfied with the growing tendency in physicians to use it strictly and to be satisfied only with distinct proofs of its utility; and the most generous believer in the medicinal virtues of alcohol must know that the public and individual patients are taking a keener interest in this question than they ever did before, and are making very shrewd personal experiments on the subject. Our own opinion concerning it has been freely expressed, and we have not concealed our conviction that good health is most consistent with very little alcohol, or with none; that he who uses alcohol freely or frequently, or by itself and apart from food, is surely laying up disease and degeneration for himself, and probably for his descendants.—*Lancet*.

CUI BONO?—For the last twelve-month two French *savants* have been keeping nine pigs in a state of habitual drunkenness. This has been done with the view of testing the effects of different kinds of alcohol on these animals. The Prefect of the Seine, last year, put some styes and a yard in the municipal slaughter-houses at La Villette at the disposal of the *savants*, in order that they might conduct their experiment at the smallest cost to themselves. We learn that the pig who takes absinthe is first gay, then excitable, irritable, combative, and finally drowsy; the pig who has

brandy mixed with his food is cheerful all through till he falls to sleep; the rum-swilling pig becomes sad and somnolent almost at once; while the pig who takes gin conducts himself in eccentric ways, grunting, squealing, tilting his head against the sty door, and rising on his hind legs as if to sniff the wind. Dr. Ducaine, writing on these intoxicated swine in *La France*, remarks that they are none of them the worse for their year's tippling.—*Medical Times and Gazette*.

A MUCH-NEEDED REFORM. — The physicians of Boston, United States, have inaugurated a measure of internal reform which the medical profession in England would do wisely to imitate forthwith. They have formulated a provision of their ethical code to the effect that "a physician should not append his name, or permit it to be appended, to certificates in laudation of speculative health resorts, health excursions, nutritive or dietetic preparations, proprietary formulæ, wines, mineral waters, beverages of real or supposed medical efficiency, or other hygienic materials." This is a sweeping and practical, but highly necessary, act of self-purgation that the body to which we belong, and in the name of which we claim to speak, sorely needs, and which would sensibly enhance its social and scientific status. The growing practice of attaching the names of members of our cloth to articles sold to the public has reflected no little discredit on the profession in general, and on the individuals who have lent themselves to the more than equivocal practice at which this timely resolution has been aimed. What the physicians of Boston have done, the physicians of the United Kingdom can do. Let those who have sinned in this matter sin no more, and let those who have not as flagrantly offended resolve to avoid offence. It will be well for the profession, and for the interests of commerce too, when the practice of giving and vaunting medical testimonials, and parading the names of physicians and practitioners in the manner denounced by our brethren across the Atlantic, is finally abandoned.—*Lancet*, Feb. 19.

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Original Contributions.

THE PRACTICAL TREATMENT OF DIPSOMANIA.*

By STEPHEN S. ALFORD, F.R.C.S.

BEFORE considering the practical treatment of dipsomania I will make a few remarks upon its predisposing and exciting causes, since no disease can be intelligently treated unless these are ascertained.

True dipsomania is undoubtedly a disordered condition of the nervous system, manifesting itself at first by functional derangements. Dipsomania must not be confused with mere drunkenness; for it soon becomes irresistible and beyond the control of the ordinary will, often quite unconnected with temptation and arising from a special individual condition, whereas drunkenness depends to a great extent on accidental outside allurements.

Dipsomania may be hereditary, or the result of an inherited nervous temperament, and transmitted like other family diseases. It is allied to such nervous complaints as insanity, hay-fever, or sick-headache; and like them is periodic in its attacks, and often accompanied by hallucinations, delusions, sleeplessness, tremors, and nervous exhaustion.

Civilisation tends to produce this condition by causing nerve-power to be prematurely used up.

Among savage and half-civilised communities, though excessive drinking is often prevalent, the disease of inebriety has scarcely been manifested.

The exciting causes may be purely accidental, as from brain-exhaustion, following loss of property, or bereavement, or from

* Read before the British Medical Temperance Association, May 27, 1881.

physical injury, as in the case of sunstroke, or railway accident. The attack may be suddenly induced by certain climatic conditions, such as sea air, east wind, dryness of the atmosphere, extremes of heat or cold, or in fact by anything disturbing the harmony of the organisation, and thus arousing a hitherto dormant hereditary tendency. It may also be inadvertently lapsed into by a frequent resort to alcohol to sustain exhausted energy, and restore used-up nerve-power. All diseases, whether of a local or constitutional character, which affect the system by perverting or lowering healthy nerve-power, are liable to react in inebriety. The effort to relieve exhaustion, and remove a miserable desponding condition, leads to a craving for alcohol, which at the time cannot be restrained.

The successful treatment of dipsomania depends on a clear estimation of all circumstances and conditions connected with the case, as family antecedents, temperament, and personal history. Hereditary inebriety is difficult to control. The paroxysmal craving is never completely lost, and can only be kept under by constant watchfulness, and rigid abstinence from all alcoholic drinks. Voluntary effort on the part of the individual is necessary for the successful treatment of this class of inebriates, and they are generally anxious to conquer their inherited infatuation for alcohol, and will readily co-operate in any plan likely to ensure their emancipation.

Those who unwittingly lapse into inebriety, and whose susceptible nervous temperament has an intolerance of alcoholic drinks, if they really wish to conquer this habit can easily be treated successfully; especially if taken in an early stage. This class is not, however, so eager for recovery as the class in which inebriety is hereditary, since the nerve exhaustion is greater, and the will-power in abeyance, as if paralyzed. But even these—when, after a few weeks of kind and judicious treatment, the immediate effect of the alcohol has passed off—gratefully consent to assist the efforts made to restore them, and willingly submit to all necessary restrictions. It is for this class particularly that compulsory powers are required, to place them under control from the first, for while still suffering from the miseries of alcoholic depression they are unwilling to entirely abandon its use.

When inebriety arises from external causes, such as accidents, sunstroke, shocks, &c., the maniacal condition is most marked. Patients thus attacked are incapable of acting and judging for themselves, and need early restraint, not only for their own safety, but also for that of those associated with them. This unfortunate class of inebriates, as well as those whose disposition when under the influence of alcohol is naturally fierce, are not responsible for their actions; their natural uncontrollable ferocity

making them dangerous to themselves and others. Much of the quarrelling and violence in this country arises from persons highly susceptible, and easily made incapable by alcohol, and really in an irresponsible state. Instead of punishing such for so-called crimes, a paternal government should take care of them, and protect the community from the disastrous effects of their wild actions.

Those who have become inebriates from companionship, and the habits and allurements of society, are allied to the mere drunkard, and are seldom willing to stop their drunken career unless compelled: disease, the result of their intemperance, may arrest their course, but often too late to restore what might have been a useful life. In all cases there must be the power of restraining the inebriate from alcohol, otherwise all efforts are futile.

The want of this power has baulked medical men in their efforts to treat inebriates; the infatuation is so intense, and the cunning efforts to obtain alcohol so persistent, that, without positive power of control, it is impossible to keep them from it. Hence, to secure success, individual liberty of action must, for the time, be sacrificed.

The imperfect "Habitual Drunkards Act," of 1879, permits this power to be exercised, provided the inebriate consents voluntarily before two justices to submit himself to be placed under control in a licensed house, subject to Government inspection. Most hereditary inebriates will do this, as will also some from all classes of inebriates; but many are left uncared for, and allowed to ruin their families, and destroy themselves. These, in their mad paroxysms commit, unconsciously, all kinds of so-called crimes, including murder; and, if in this country, they are liable to suffer capital punishment. What is needed, is to obtain sufficient legislative power to commit all such incapable dipsomaniacs to a well-managed Home.

As soon as an inebriate is received into such a home, and until the alcoholic effects have passed off, he should be kept in bed under medical treatment. All alcoholic drinks should be at once withheld. No harm will result from this total and sudden suspension of stimulants, not even in delirium tremens. The letting-down system by gradually discontinuing alcohol is unwise, as it feeds the craving and hinders the recovery. The morbid craving will soon abate; but, to relieve the intolerable sinking and nervous prostration, acidulated drinks, barley-water, buttermilk, and such like diluents, should be freely given for a few days; even if sickness occurs, these drinks should be persevered with, for the sickness will tend to cleanse the stomach. These drinks also act freely on the skin and kidneys, and thus have a beneficial effect on the secretions. Russian vapour-baths, if they can be obtained, will

promote this, and tend to soothe and allay the distressing restlessness, and to divert and occupy the attention. After a few days a little light solid food can be given, such as toast with beef-tea, or some farinaceous preparation; but butchers' meat should be for a time avoided. It would, perhaps, be better for confirmed inebriates only to take butchers' meat moderately, since it taxes the stomach and creates a sinking feeling. Liebig considers that vegetarians, from chemical and physiological causes, would necessarily dislike and avoid alcohol.

During the early stage of treatment, if accompanied by wakefulness and delusions, bromide of potassium in large doses, with capsicum, frequently repeated, has a beneficial effect. The bromide soothes the agitated nervous system, and the capsicum allays the gastric craving. The ordinary anodynes, especially chloral hydrate, should be avoided. As soon as the alcoholic contamination has passed off, which it will require three or four weeks fully to effect, exercise and light occupation will be beneficial. At this stage general moral treatment must be brought to bear. Harshness will cause sullenness and obstinacy; kindness and sympathy must therefore be shown, and an effort made to arouse the better feelings, create a desire for recovery, and inspire a confidence that they can be restored if they will exert themselves and second the efforts made on their behalf. The better part of the man being thus aroused, the alcoholic contamination eradicated, and the nervous system rallied, the influence of restored inmates, with whom they should now be allowed to associate, will be useful in helping to confirm a determination to throw off the old habits. Under judicious management and religious influence this improved condition may become permanent; in most cases nine or twelve months, in confirmed cases even some years, may be required to strengthen and confirm these habits. By degrees full liberty can be allowed the patients to go about as they like, at first only in company with a tried inmate, but on parole as regards alcoholic drinks. The habit of self-denial under temptation is thus practised and becomes confirmed, and so valuable lives may be restored to their families and to society. Such I believe to be the most successful plan for the treatment of the inebriate.

To carry this out it is absolutely necessary to have sufficient power of restraint during a paroxysm, as well as from the first, to put the inebriate under control, voluntarily or otherwise. No one will be more thankful afterwards for this suspension of his mad career. During convalescence red cinchona bark strengthens and sustains nerve power; when attacks of exhaustion and sinking arise, caffein or coca, generally afford relief: various nerve tonics, as quinine, arsenic, and strychnine, may also be given with

benefit. The preparations of iron are not adapted for these cases except where there is anæmia. To prevent relapses a life-long abstinence from alcohol is absolutely necessary.

In America it is estimated that one-third of the inebriates under judicious treatment recover; a third are restored for a time, and the remaining third are unaffected by treatment. My experience convinces me that if the care and treatment of inebriates were more generally recognised, and effectual opportunities existed for their treatment in the early stages, a much larger proportion might be recovered. As it is, the percentage of recoveries will bear comparison with those from other diseases. In this country, for instance, it is estimated that only 10 per cent. of those under treatment for insanity are restored to health. We must not so much depend on purely medical treatment as on judicious management and kindness.

Religious influence is important in the second and subsequent stages of treatment, and to sustain the constant watchfulness necessary to maintain the total abstinence that must be rigidly observed under all circumstances through life. This conquest of self, and keeping the morbid craving in subjection, few men can accomplish. At times, even after years of abstinence, the desire will be most distressing and overpowering. It is refreshing under such trying circumstances to recognise and experience the existence of a higher Power, who will give the necessary help to all who really believe, and earnestly ask for it. Permanent recoveries are uncertain without this Divine help.

Recognising the fact that cravings for alcohol will arise from time to time, it is important to remove every opportunity of temptation, therefore no inmate of an Inebriate Home should be allowed to possess money, or any valuables, without the express permission of the superintendent. As soon as they are able the patients should join in systematic occupations and amusements, for which purpose every Inebriate Home should have workshops and opportunities for games and sports, and these as far as possible should be systematically arranged. Much of the benefit of hydropathic establishments depends on the systematic bathings and exercises. Inebriate Homes would do well to adopt some of their plans. It is important that the treatment of inebriety should be commenced before the habit becomes too confirmed, and the physical and moral natures thoroughly contaminated. If compulsory powers of control existed, it would lead many, voluntarily, to place themselves early under restraint. These, knowing their inability to overcome their habit of inebriety, and that, sooner or later, they must submit to restraint, would adopt the more private plan of voluntary submission, rather than run the risk of public exposure, particularly when they knew that at the most the restraint

could not exist for more than twelve months. In America 94 per cent. of the inmates of Inebriate Homes have thus voluntarily given up their liberty. No doubt in many cases the knowledge of the compulsory powers possessed by the State has led to this. But even in this country many have voluntarily submitted to control, recognising their inability to manage themselves; well-managed Homes find no difficulty in obtaining inmates, although they often have no legal power of detention. Yet thousands not having the means to pay high terms are left uncared for. Many clergymen, and other professional men, have applied to me for the opportunity of being admitted into a licensed Inebriate Home at a moderate charge; there is still the lower class, the source of most of the misery we find amongst us, who fill our workhouses, prisons, and to recover whom such persevering efforts are being made by temperance advocates. Are they to be left to destroy our country, and spread around them misery and distress, which a kind, firm control might prevent?

What is needed is to disprove by a practical demonstration the erroneous opinion held by many that Inebriety is not a disease amenable to treatment. For this purpose efforts are being made to establish in this country a Model Inebriate Home, at a moderate charge to the inmates, so that while restoring many of this neglected class, the public may be convinced that inebriety is a diseased condition, from which recovery can be obtained under proper management.



THE SCIENTIFIC ASPECTS OF TEMPERANCE.

IN contributing our quota to a Journal devoted to the discussion of the Temperance question in its especial bearing upon the medical profession, and its scientific aspect, we are conscious both of the responsibility of the task which we have undertaken—of its magnitude, and of the high intelligence and education of our readers. Necessity called us into existence; we have been sustained in our work by the warmest help and succour from a profession whose philanthropy, self-sacrifice, and beneficence know no limit. Closely allied with its clerical sister-profession, it works for the common good in the cause of suffering humanity—the one in a spiritual sense, the other in a physical; and when the two go hand in hand, as they did in the Divine Author of Christianity, great indeed must be the blessing. We are sustained by a deep sense of the truth of the cause whose advocacy we

undertake, of its vital importance and necessity in the present age, where alcohol is so actively at work, alluring its victims by thousands, under specious, hollow, and false pretences of doing good, whilst, in reality, as too many find out when too late, it has only spread its withering and blighting influence upon all who were unwise enough, or specially uneducated enough, to weigh exactly its pretensions. For years before this serial was called into existence we were struck and appalled to find the great lack that then existed amongst medical men, both in their student days and in their subsequent career in special education in the alcohol question. The Temperance question had made rapid strides; literature, facts, experiments, and experience had accumulated, which were never suspected before, until a terrible accumulation of indictments against alcohol had been collected. Refutation was impossible. Facts increased to such an extent that the subject could only be mastered by special study. What could be done? Alcohol had friends enough who would have taken up its cause—fought for it through evil report and through good report, if they could; but power and truth were lacking upon their side, and a bad cause in the hands of ever so eloquent an advocate is worse off than the truth without one. If alcohol had possessed a tithe of the virtues which have been assigned to it, there would have been no need of advocacy; it would have sustained its own in spite of opposition. But the virtues of alcohol, imaginary, shifting, and untrue as they have ever been, have rested upon a foundation which may be described in the expressive Yorkshire sentence—“*Nowt but lees.*” All conceivable virtues have been assigned to it, and yet in reality what good has it done? Simply none. In its whole history, and in its unholy alliance with medicine, it has not cured a single disease *per se*; it is an antidote for nothing, a specific for nothing, a cure for nothing, a preventive of nothing. Alcoholic education in connection with medicine has been ignored by the whole of the medical universities, corporations, and authorities of this kingdom. It is one of the most important questions of therapeutics, one which lies at the very root of the medical art; and whilst the most intricate and collateral questions bearing upon medicine are elucidated with a minuteness which is really wearying to the medical student, the alcohol question is left practically untouched. Some of the finest and best trained students of our universities issue forth ignorant of the question, whilst they are educated upon infinitely less important matters to a point which is never likely to be wanted, or to be of use to them if their lives were six times as long as in the nature of things they ever will be. And this omission is a serious defect in medical education, calling loudly for attention and alteration. Before dealing with a dangerous

and treacherous thing like alcohol, used as it is by every one upon every occasion, by all means let the medical man know its full history, so that he may not be blind to its dangers, magnify its supposed virtues, or handle an edged tool which is sure, without the greatest care, to cut in the wrong direction. Mind that, under the plausible name of a stimulant, alcohol (instead of sustaining vital power) only calls it forth, prematurely exhausts it, and so diminishes the chances of life where they are nicely hanging in the balance. The use of such a thing demands the greatest nicety and knowledge; and where these are not possessed, safety and wisdom, prudence and humanity, point to their non-employment, especially where, to use a sporting phrase, the chances are a million to one that they will do harm; a million to one against their doing any good. The good that alcohol has ever done in the gross aggregate is infinitely small; the harm that it has done is written in letters of blood in the history of every nation under the sun. From the times of Noah and Lot, Samson and the Philistines, the "Ephraimites," the Babylonians, the Ninevites, the Macedonians, the Thracians, the Carthaginians, and other peoples, down to the Anglo-Saxon race and its allies, the history and result have been the same; and they ever will be in the future as they have been in the past. The subject is one thrilling with interest; it should be pursued and studied to profit, as it may be elsewhere. Time and space preclude more than allusion to the subject here. But facts are indelibly engraved upon the page of history never to be effaced, although they may be for a time forgotten, and in times of forgetfulness the lesson is apt to be lost. They cannot be too often brought to the light of day, nailed to the mast and held up for public gaze—for there are always swarms of people ignorant of history, and to these its practical lessons are lost. "Give a lie five minutes' start and the truth will never overtake it," is a proverb as old as the hills, and never more true than in the case of alcohol. The lies upon which the virtues of alcohol have rested have not only had five minutes' start, but in reality that of many centuries, ere the truth of total abstinence dawned upon mankind. The race is endless and terrific, nevertheless we shall win, for we advocate a great and a glorious truth, which shall, in the end, as assuredly prevail as the coming dawn, and redeem mankind from one of the vilest, most fatal delusions, setting him free from the iron grasp of the deadliest enemy to his spiritual, moral and physical welfare, although in the false garb of a friend. Alcoholic virtues are myths, as endless and as delusive as phantoms—shifting lies, which have changed in every age, moved about to suit the circumstances of times and people, and although combated, and shown to be false,

are reiterated over and over again; and so the work of total abstinence advocacy has to be gone over and over again. No sooner is one generation partially educated than it dies, and another springs up to be led away and deluded by the same claptrap, errors and misconceptions of the value of alcohol. Oh that generations could be always wise—continuously wise—and that wisdom were universal. Utopian wish, but one devoutly to be desired, to be hoped for, and to be prayed for—the epoch in this world's history which should be delivered from the incubus and the curse of alcohol—the age which should know it not, or its inevitable train of sin, sorrow, and premature death!

The remedy is infallible—as much so as any specific can possibly be—certain, cheap, universal, safe, and applicable everywhere at all times. Total abstinence will annihilate every evil which can possibly spring from the liquor traffic, no matter under what phase or disguise. The two are entirely antagonistic, incompatible with each other; as opposite and as antagonistic as fire and water. They are certainly not founded upon the homœopathic law of *similia similibus curantur*, of joining “grief to thy grief,” or echoing sighs to thine. The principle of drinking deeper to cure drunkenness would be madness indeed; but total abstinence would be the only true and scientific remedy. The old Jewish proverb about alcohol being *φαρμακον αφοζηνης*, “the physic of fools,” has a remarkable ring of truth about it now, and, although long lost sight of, has a meaning as fresh as ever. And the converse is equally true, that total abstinence is the physic of the wise. Alcoholic medication has done little or nothing for its votaries or its dupes, but hurried thousands of them into poverty and premature graves; torn away some of the brightest and dearest associations of life; torn to the quick every hallowed and sacred virtue which has existed or thrilled in the human breast; and what has it done in extenuation? Simply nothing. No redeeming feature to its good balance; no virtue to its credit; a thing almost without a single virtue; a thing with a million vices; the common enemy of all; an exhausting, treacherous, and dangerous narcotic; a thing which will professedly nourish, but will in reality poison; a thing which will professedly “strengthen,” but will in reality weaken; a thing which will shrivel up the blood corpuscles, poison the blood stream, arrest vitality everywhere, and produce disease and irritation in every organ with which it comes into contact; a Bright's kidney producer, a hob-nailed liver producer, a blood poison, a fatty degeneration maker, a gout producer, dyspepsia producer, insanity producer, a poverty producer, all combined in alcohol: truly its seed is prolific. And if some of the many specimens of these warped forms of humanity could be procured and made to

parade the streets of our town thoroughfares, labelled on large placards in the "sandwich" style, "Hob-nailed liver and ascites: the alcoholic liquor system has done this"—"Insanity: the alcoholic liquor system has done this"—"Reduced from affluence to beggary: the alcoholic liquor system has done this," it would only be bringing some of those things to the light of day; let them not be hidden beneath a bushel.

Alcohol may be termed the prince of quacks. In quack style, virtues which it never had have been paraded in every time and age. It lives upon a false reputation, by assuming virtues which it does not possess; its vices have been kept by its advocates in the dark; it ever seeks fresh victims and lures them on to destruction. An oily-tongued syren ever playing its lying and delusive music, and ever devouring those who are unwise enough and inexperienced enough to fall within its grasp. Easy indeed is the way of entrance made, but hard enough and difficult enough is the exit; and if the victim fortunately escapes with his life, he is probably for ever maimed. The people possess within themselves, by wisdom and combination, the power (in total abstinence) to put an infernal machine within the nest of this syren which shall explode and send it into a million fragments and exterminate them for ever from the earth. Why not do it? No penalty would ensue. No aid of a lukewarm Government need be sought; no fear of a trial for the result. In this work nothing is to be hoped for from the Government on the one hand, nothing to be feared from it on the other; simply withhold the custom and every drink shop perishes for lack of prey. Six months would do it; we should enter upon a paradise of sobriety and national peace. El Dorado come at last!



INEBRIETY AND ITS TREATMENT.*

WE are here presented with a very full report of exceeding interest. It embraces the age, history, nativity, education, social condition, occupation, allied habits, duration and nature of the inebriety, complications either of disease or injury, number of attacks of delirium tremens, and the exciting cause of the

* A Statistical Report of two hundred and fifty-two cases of Inebriety treated at the Inebriates' Home, Fort Hamilton, Long Island, from November, 1879, till September, 1880. By Lewis D. Mason, M.D., Physician to the Home.—Reprinted from the "Quarterly Journal of Inebriety," April, 1881.

ailment, so far as these could be ascertained. The records of the particulars of two hundred and fifty-two dipsomaniac cases are given in a tabular form, characterised by peculiar simplicity and clearness.

The highest number of inebriates admitted to the Fort Hamilton Home was between 30 and 40 years of age. Between 25 and 30 years there were very nearly as many, and a few less between 40 and 45. Beyond these limits of 25 and 45 the numbers decreased gradually to 20 on the one hand, and 60 on the other. There were very few between 60 and 65, and only one case in the whole number between 15 and 20. As regards sex, nearly 20 per cent. were females. More than one-half were natives of the United States, a fourth hailed from Ireland, a twelfth from England, and a sixty-third from Scotland. More than one-half were Protestants, rather more than a third were Roman Catholics, and only one of no religion at all. Education is often vaunted as a preventive of drunkenness, but the Report before us shows the fallacy of this belief. Only twenty-four could neither read nor write, while ninety-two had a rudimentary education. Fifty-five, or nearly one-fourth, received a liberal education, one in fourteen having passed through a college curriculum.

Of the males, about one in eleven followed professions; a large proportion were skilled mechanics; and of those engaged in business, none were below the average in general intelligence and capacity, many being far above it. The *clientèle* comprised clergymen, lawyers, physicians, and members of all classes in society, who at one time held responsible positions, but now nearly all voluntarily sought the refuge and restorative treatment the asylum afforded. Of the females, one-half were domestic servants. Of the males one-half were married, and of the females three-fourths. The statistics of insanity show a similar proportion between the married and the unmarried.

The influence of heredity was very marked. In more than three-fourths of the cases the father or mother, or both, were intemperate. In seven cases the uncles were addicted to excess, and in seven cases the taint descended from grand-parents. The insanity of parents was clearly one of the predisposing causes of inebriety in their children; but the principal hereditary cause was undoubtedly an inebriate father or mother. In a few instances an inebriate parent begat insane as well as drunken offspring.

The great majority of the inmates used tobacco in some form, though occasionally there were cases where tobacco had never been used. The opium habit was frequently associated with the habitual use of alcohol. Of the entire number, nearly a fourth had been under treatment at other establishments before applying

for relief at Fort Hamilton, but that absolute restraint, which is so necessary a factor in the cure of this distressing ailment, had not always been effectually applied. So that it would be more accurate to say that less than one-sixth of these had received thorough treatment. More than one-half of the whole number of patients had been addicted to inebriety for over five years, and nearly one-half for over ten years, before admission. About two-thirds had been habitual and one-third had been periodical drunkards. The duration of the drunken habit shortened life sooner in the habitual than in the periodical inebriates.

Some curious facts are revealed by the Report as to the kind and quantity of liquor affected by the inmates. More than one-half got drunk on whisky, one-third indulged in both malt and spirituous liquors, and sixteen were cases of victims to drunkenness from malt liquors alone. Some had consumed a daily average of two quarts of brandy, others three to four quarts of whisky, and others one gallon to one gallon and a-half of beer. Dr. Mason calculates that the 162 whisky drunkards must have drank, during their days of dissipation, nearly 200,000 gallons of spirituous liquors.

The predisposing causes were chiefly parental inebriety, sometimes parental insanity, and in a few cases the intemperance of grandparents. Head injuries were largely in excess of the other exciting causes, viz.:—blows on the head, fractures of the skull, loss of bone, and concussion of the brain. In nearly all the head cases the sufferers had used alcoholic stimulants in moderation previous to the injury. Other physical disorders were also found to be exciting causes, the drunken habit being excited in one case by stricture of the urethra, in another by tape-worm, and in another by necrosis of the tibia. Additional exciting causes were social habits, business drinking customs, employment in the liquor traffic, family troubles, and losses in business. Among the complicating diseases were phthisis, syphilis, gonorrhœa, and tubercular disease.

Alcohol stimulates unduly the generative organs. The virile power is thus prematurely exhausted, and impotence is a common result of habitual drunkenness. A very intractable form of phthisis is induced by alcoholic excess. It is also noted that in no class of disease does alcohol more frequently form the basis of treatment than in pulmonary disorders, and that temperate persons who have taken alcohol as a remedy for these ailments have frequently developed inebriety. Fifteen were epileptics in whom the epilepsy was due to alcohol as the exciting cause. Ninety three had had 182 attacks of delirium tremens. Chronic alcoholic mania was at times treated. This form of habitual intemperance commonly ended in dementia. The only chance

for such cases was being placed for a long period in an inebriate asylum, under proper care.

The practical conclusions to be drawn from this admirable Report are of the highest importance. The initiatory stage of dipsomania is usually formed between fifteen and thirty-five, the large proportion being between fifteen and twenty-five. This fact may be utilised in cases of marked hereditary tendency by guarding the individual at special times from the various exciting causes he might otherwise be exposed to, and thus carrying him over the most dangerous period.

The majority of inebriates do not come under treatment till they have been indulging habitually or periodically for in all cases five years, and in a large proportion of cases over ten years. Inebriety, to be successfully treated, ought to be under proper treatment in the first and most curable stage.

As head injuries are so powerful an agent in the causation of inebriety, it is the duty of the surgeon to be very cautious in the prescription of alcoholic liquor in the treatment of fracture, concussion, and other surgical affections of the skull and brain.

Lastly, and most important of all, the predisposition of certain individuals to drunkenness should ever be present to the mind of the medical attendant, and he should scrupulously avoid ordering intoxicants in such cases. Wherever he thinks alcoholic drink called for, he should carefully inquire into the family history and antecedents of the patient. The dose of the drug, and the period during which it is to be given, should be definite. It is to be regretted that medical practitioners do not usually prescribe alcoholic liquor as they do other poisonous articles. If they did there would be fewer medical drunkards in our midst, and the noble profession of medicine would be freed from a shameful and not altogether undeserved reproach.



THE TREATMENT OF DRINK THIRST.*

DR. HALL's little work is an interesting and useful publication ; it is not up to the teetotal standard, but perhaps on that account will be more acceptable to the majority of medical men. Though not a specialist, the author has evidently had considerable oppor-

* "Drink Thirst : its Medical Treatment." By Dr. J. Hall, District Medical Officer, St. Pancras.

tunities of studying the disease of which he treats. It is shown that no more awful visitation can befall man or woman than the misery, degradation, and ruin in which alcohol involves so many of its victims—the curse too often descending to children and to children's children. In the latter cases there is a predisposition to drink-craving; alcohol, for such persons, has a fascination which is almost irresistible.

Dr. Hall divides his work into two parts; first, he gives an account of the disease, its causes and phenomena; second, its treatment. We wish he had shown a greater disposition to cut off at once the use of alcohol. Rare indeed are the cases, if they exist at all, where the use of the poisonous agent may not be summarily and advantageously dispensed with. If there is considerable cardiac irritability, give digitalis; if there is dyspepsia, give antacids, stomachics, and an aperient; where there is restlessness, five grains of Pil. Sap. co., or Chlor. Hyd. with Pot. Brom., often produce a few hours of calm and refreshing sleep. But, above all, attention should be paid to the frequent supply of light, nutritious food. The author's remarks on many of these points are valuable.

Two or three things will always strike the intelligent reader of works on dipsomania; the disease is most difficult to cure; prevention is better than cure. Drunkenness comes from the use of alcohol; alcohol can not only be dispensed with as an article of diet or pleasure with safety, but with advantage. Since, then, its use so often begets unspeakable evils, the work of inculcating total abstinence is pre-eminently wise and patriotic.

Though Dr. Hall's book has some faults, it has many excellencies, and we should be glad if it could be put into the hands of every medical man throughout the country.



DRINK AND COLD.—A Cincinnati medical journal gives an account of a party who spent a cold night on a western prairie, according to which it appears that “they all suffered just according as they took in the whisky. Those that got drunk froze to death; those that drank less, but too much, died after a while; those that drank only moderately will feel it as long as they live. Three didn't drink any; they were only cold, but did not suffer nor freeze.”—*Good Health*.

Proceedings of the British Medical Temperance Association.

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President.

B. W. RICHARDSON, M.A., M.D., LL.D., F.R.S., F.R.C.P.

Honorary Secretary.

Dr. J. J. RIDGE, Carlton House, Enfield, Middlesex.

Registered or registerable medical practitioners are admitted as members on condition of personal abstinence from all intoxicating liquors as beverages, and payment of an annual subscription of not less than five shillings.

Registered medical students who are total abstainers are admitted as Associates on payment of an annual subscription of half-a-crown.

Members and Associates receive the *Medical Temperance Journal* free by post.

NOTICE.

The subscriptions for the current year 1881-2 are now due, and should be forwarded to the Honorary Secretary.

NEW MEMBERS.

Dr. Crosby, Sunderland.
Surgeon-General Francis, London.
Dr. Fulford, Wadebridge.
W. Hazel, Esq., London.
J. A. Hedges, Esq., Leighton Buz-
zard.

Dr. Norris, Lancaster.
C. Rothwell, Esq., Bolton.
A. M. Sydney-Turner, Esq., Glou-
cester.
Dr. Thornley, Bolton.

NEW ASSOCIATE.

E. T. Gregory, Esq. Charing Cross Hospital.

Enfield, June, 1881.

J. J. RIDGE, M.D., *Hon. Sec.*

THE ANNUAL MEETING.

The Annual General Meeting of the Association was held on Friday, 27th May, at the Medical Society's Rooms, 11, Chandos Street, Cavendish Square, Dr. B. W. Richardson, F.R.S. (the president), in the chair.

Dr. J. J. RIDGE, the hon. secretary,

read the minutes of the last annual and quarterly meetings, which were confirmed. Dr. Ridge also read the following

REPORT.

The progress of the temperance reformation in the United Kingdom

is reflected in the increase of the British Medical Temperance Association. On May 1st, 1880, there were 235 members and fourteen associates. During the year nineteen new members have been enrolled, and four associates have become members after qualifying as medical practitioners; six new associates have joined our ranks. On the other hand, two members have died, namely, Dr. Hope, of Liverpool, and T. Bott, Esq., of Bury, Lancashire; and six others have resigned membership. Hence the total number of members is now 250, and of associates sixteen, being a net gain of fifteen members and two associates.

The following papers have been read during the year at the quarterly general meetings of the association:—

1. "Notes of Cases treated at the London Temperance Hospital," by Dr. Edmunds;
2. "Report on the use of Ethylate of Sodium (Sodium Alcohol) in the Treatment of Nævus and other local affections," by Dr. B. W. Richardson, F.R.S.;
3. "Acute and Chronic Alcoholism," by Dr. C. R. Drysdale;
4. "Alcohol as an Anti-spasmodic: a Clinical Survey," by Dr. B. W. Richardson, F.R.S.;
5. "Ava, the Polynesian Intoxicant: its Physiological Action and Therapeutical Uses," by Dr. G. B. Clark.

There were also exhibited a case of drugs used in flavouring and adulterating gin and other liquors, and directions for their use contained in "The Mixing Book," by Dr. J. J. Ridge; and Dr. Dudgeon's Sphygmograph, by Dr. C. R. Drysdale.

In August last the International Temperance Congress met in Brussels, and was attended, as a deputation from this Association, by H. Branthwaite, Esq., and Dr. C. R. Drysdale. The declaration on the temperance question and of the principles of the British Medical Temperance Association, which was read and approved at our last annual general meeting, was read by Dr. Drysdale in French, and entered on the minutes of the Congress. A number of copies of this declaration were distributed among those attending the Congress and eagerly accepted.

Papers were also read at the Congress by S. S. Alford, Esq., on the Influence of Habitual Drunkenness on Criminality; by Dr. D. Brodie on the Physiological Action of Alcohol; by H. Branthwaite, Esq., on the Effect of Alcohol on the Temperature; and by Dr. Norman Kerr on the Heredity of Alcohol. As one result of the Congress a committee of nine members was formed to investigate the action and effects of alcohol, and to report to the next Congress in London, 1882. Drs. Richardson, Norman Kerr, and H. Branthwaite, Esq., were elected members of this committee.

Advantage was taken of the meeting of the British Medical Association in Cambridge in August last, to afford an opportunity to those members of our Association who might be present on that occasion to meet together, and to this end a luncheon was held, at which fourteen members were present. The action of alcohol was well discussed in some of the sections at this annual meeting, notably in the psychological section, in which the question of the relation of alcohol to insanity gave rise to a long and adjourned discussion, the generally accepted result being that alcohol was credited with causing directly 15 per cent. of all the cases of insanity. At this meeting also the progress of public opinion was well shown in the adoption at a crowded meeting of members of Dr. Norman Kerr's proposal that the tickets for the annual dinner of the Association should in future be exclusive of wine.

In October last a conference of medical men was held at Bristol under the auspices of this Association, at which the honorary secretary attended as a deputation, and read a paper on the subject, "What should Medical Men say about Alcoholic Beverages?" The meeting was convened in the names of Drs. Challacombe, Greenly, Stewart, and Tivy, and was presided over by Dr. Brittan; about forty gentlemen attended, and an animated discussion followed on the reading of the paper.

In November the attention of the Council was called to certain state-

ments alleging that a great increase of mortality had resulted in the West Derby Union from the discontinuance of the allowance of alcohol. The Council held a special meeting on the subject, and agreed to memorialise the Local Government Board to institute an inquiry into the facts of the case, and drew up ten heads of inquiry which seemed essential in order to arrive at a correct conclusion. The memorial was presented and favourably received by the Local Government Board, and an inquiry has been instituted on the lines indicated by the Council.

The year, therefore, has not passed away without leaving some signs of progress in the enlightenment of the nation on the medical aspect of the temperance question. Much, however, yet remains to be done. The Association would have its influence much increased by the addition to its ranks of those large numbers of medical men, practical abstainers, who are still unenrolled; the Council also hope for the help of many more of the members in the investigation of the still unsolved problems connected with alcohol, in collecting facts respecting it, in preparing papers for the quarterly meetings, and in other ways which may suggest themselves to individual members. Thus all may have a share in the great work of dispelling the disastrous ignorance of the true position of alcohol which is prevalent in many quarters.

The balance-sheet showed receipts amounting to £66 4s. 8½d., and a cash balance in hand of £9 os. 6d. On the motion of Dr. RIDGE, seconded by Dr. DRYSDALE, the report and balance-sheet were adopted.

The auditors having been re-elected and thanked for their past services, the officers of the Association were re-elected, the name of Surgeon-General Francis being added to the list of Vice-Presidents.

The PRESIDENT, in returning thanks, said he could have wished that the office he held had fallen into the hands of one whose time was less occupied than his was, for he was so pressed

with work at this period that anything like a relief would have been a comfort to him; but the great work in which they were engaged was so much advanced by the labours of the Association, the public looked to the medical profession to lead them in the right way with regard to temperance movements, and the members of the Association so strongly expressed themselves that he should again take the post of president, that he had had the pleasure once more of accepting the nomination. He looked upon the Association as extremely valuable and interesting, and he had never attended one of their meetings without being informed on some point that he had not known before on some of the many matters of temperance and scientific interest which they had discussed. They desired to be in the first ranks of science and medicine, and it was their duty to take a deep interest in the general advancement in the tone of professional feeling, and learning should accompany every medical effort. He had been much struck with the statement made by Dr. Ridge as to the large constituency of the medical profession in the kingdom who were not only with the Association in sentiment and feeling, but in actual practice, who did not come to them, professedly because of the fear that their own interests would be jeopardised. There was an arduous profession, in which, he was quite aware, there were many jealousies. There was the *odium medicum* as well as the *odium theologicum*, and he supposed that none of them had declared themselves in the cause without at first losing a little in practice, and, perhaps, professional standing. But this drawback was of a fleeting kind, and he believed the course of events would be that those who were leading the way would have the first place in the public estimation. They might at first think they were martyrs to a great cause, but the cause was sure to triumph, and with that triumph would come their success. He hoped those who were with him in sentiment would really join the Association. If they did, next year instead of having 250 members

they would have 600 or 700, or, perhaps, 1,000 members, and what could not be done by such a body of medical men in all parts of the kingdom? The medical profession should be like torch-bearers throughout the kingdom, leading public opinion in this great matter, and he trusted that before resigning the presidency into younger and more active hands, a very large amount of work would have been done in that direction.

MR. S. S. ALFORD, F.R.C.S., read a paper on "The Practical Treatment of Dipsomania," which is given in full in the early part of our present issue.

Dr. EYTON JONES (Wrexham) asked whether Mr. Alford had any statistics of the number of inebriates in the United Kingdom, and said that looking at the very large number of inebriates scattered throughout the country he had entirely lost faith in any remedial measures that were not of a coercive character. He had asked a great number of inebriates to submit themselves to some repressive measure, to enter some institution, and endeavour by that means to recover their positions in society; but while two or three had agreed to do so, they had, as a rule, exhibited the same slyness with respect to this matter as they do in obtaining stimulants—and as inebriety was progressing and largely increasing among the female inhabitants of this country, he felt that this demoralisation could only be checked by coercive measures. He had had some little experience of one fact. Having acted as a magistrate for nearly fifteen years, he found that a very great suspicion existed on the part of the public that if coercion were established in this matter, some medical men would be found who could be biased in such a way that they would send into the asylums persons who did not come properly under the class of dipsomaniacs; and therefore he would like to see established, not simply a voluntary system, but a mode of examination of dipsomaniacs which would put the question of their condition beyond doubt. He would like to see a law established whereby dipsomaniacs should be proclaimed before two magistrates upon testi-

mony of the most reliable character, and then the public at large would come to regard coercive measures as being of greater value than voluntary ones. If Dr. Norman Kerr's statistics were worth anything, and he had proved that in this country nearly 50,000 lives were lost directly owing to intemperance every year, what became of the few cases of confirmed dipsomaniacs who were cured and returned to their families? They were constantly meeting with dipsomaniacs who were ruining themselves and their families, and yet under the present state of the law such people could not be touched. He believed that the only way of preventing such men ultimately being sent to gaol for committing some crime which brought them within the law was to assert the majesty of the law in the individual before he becomes a criminal, and that his disease should be treated by a paternal government before it could prove morally and physically fatal.

Dr. NORMAN KERR thought the point they ought to discuss was one which the clergy and other moral reformers seemed to have almost lost sight of. There were two aspects of drunkenness. There was both moral and physical degradation; for over and above the sin and crime that clergymen and lawgivers denounce from the pulpit and the bench, there was in a great many cases something more than a mere moral or social aspect of the question—the physical disease behind: and until the people of this country understood that drunkenness was the result of physical narcotic poison operating upon the physical and the mental and moral nature, they would fail to grapple with the subject. Until politicians, and the present Prime Minister especially, awoke to the fact that alcohol causes, by its physical action, social, religious, and political mischief, they would not do much good in repressing the misery which they all so much deplored; and it was the duty of the medical profession to teach politicians that alcohol is a body and brain poison, and to induce them, if possible, to prohibit its sale. Clergymen and others who came to him on the ques-

tion, as a rule, forgot all about the existence of an hereditary drink crave; and until they understood the physiological effects of alcohol on the human system they could do little permanent good. One point which Mr. Alford stated was particularly essential, and that was that there must be entire and unconditional abstinence from all alcoholic beverages. He had known cases where men who were believed to be cured had had all their cravings awakened by taking the communion wine. He was glad that Mr. Alford had emphasised the fact that there was no danger in suddenly cutting off the supply of alcohol, for this was a matter too much lost sight of and misunderstood; but he could not agree that any amount of beefsteak in the world would give anybody an appetite for liquor. Many of the Brahmins in India, who were hereditary and religious vegetarians, had learned to drink just as much as an Englishman. Dipsomania was quite an artificial disease, and if there were no alcoholic liquors produced it would soon die out. With regard to the bark cure, red bark and other tonics were good things; but of the so-called bark cure and the other things of the kind which came from Chicago he could not speak in too strong terms. It was nothing but a system of quack advertising from the beginning. It was very essential to remember that something more than medical treatment was necessary in dealing with dipsomaniacs; the moral character must be treated by religious and intellectual means—the poor, wretched, despairing spirit required to be encouraged and sustained as well as the body. As to the immediate prospect of the movement he could not say much. He could not recommend anybody to go to any licensed home in the country at present, and therefore he was perfectly helpless in the matter. It was hoped, however, that the “Dalrymple Home” would soon be ready, and that would be a sort of State of Maine on a small scale. After all, the true philosophy of the question was prevention, and they were bound to do all they could to cure their patients, by educating them by physical and

moral teaching, and, above all, by example in the ways of abstaining temperance.

Mr. E. MEACHAM (Manchester), after expressing the pleasure with which he had listened to the paper read by Mr. Alford, said he had had a mission in Manchester for the last twenty years, during which time many thousands had signed the pledge; but if he had a small home where he could have put a lot of these people—a sort of moral prison—he would have been a great deal more successful than he had been. He had a pauper district of 63,000, including the thieves’ quarter; but he knew many of the once vilest characters in the City of Manchester who, by the aid of religion and temperance, had become living lights, and thoroughly reclaimed and religious men. With regard to the hereditary taint, he had noticed this fact, that drunkards whose mothers had been drunkards before them were the worst cases to deal with. If the fathers had been drunkards and the mothers sober women there did not seem to be the same hereditary taint in the poor creatures, males or females, that there would have been had the drunkenness been on the mothers’ side. In the whole of his experience he had seen only three women reclaimed from thorough drunkenness, and those were women who had got into the religious element. With regard to the beefsteak question, a large proportion of drunkards among the working classes got precious few beefsteaks. Their chief diet seemed to be tea, bread, and red herrings. If they had beefsteaks so much of their money would not run into other coffers. He did not think much of the bark cure, though he knew of one cure under its influence. If they could put people into a sort of moral gaol, temperance reformers would have a very good chance, and he thought that whilst public-houses were open these asylums should be open as counter attractions.

The Rev. J. H. GATCHELL (chaplain of St. James’s Home) said that the experience he had gained in the St. James’s Home was the very oppo-

site to the statement that had been made as to the almost moral impossibility of reclaiming female drunkards. During the existence of the home, he understood by the reports, at least 60 per cent. of the women admitted had been successfully treated, and had gone away cured. He thought the question should not present such awful difficulties with regard to women, for very little had been done to obtain any results. It was the general belief of the public that owing to the nervous system of women it was almost impossible to cure them of drunkenness, but he thought the fact he had stated was an absolute proof of the sure remedies of moral and religious training in redeeming those who had fallen into intemperance. There was one great hindrance to the reformation which might be effected in a moral home—that was the great difficulty of getting a man to go in the broad light of day, and in his sober senses, to swear that he is a drunkard. He rejoiced to see men of great ability, power, and talent, taking up the question, for he believed that little good would be done without moral and religious teaching. A great deal could be done by working on the will and the imagination. Sir Henry Marsh, acting upon an epileptic person's imagination, cured him by persuading him that three spiders had eaten away the disease; and if they could thus work on the imagination of those who had fallen into drunkenness, they would do a great deal. He thought that beef to a certain extent heated the blood, and gave a desire for excitement, and that there were things more conducive to temperance reformation than roast beef. Mr. Gatchell concluded by reiterating his belief in the great importance of the religious aspect of the question.

Dr. DRYSDALE thought the essay read was an exceedingly valuable one; but he felt a great deal of doubt as to the possibility of locking people up because they were inebriated in the manner suggested by Dr. Eyton-Jones. He (Dr. Drysdale) had been a teetotaler all his life, but he did not

see why he should have the right to lock people up because they drank, much as he should wish them to be good and not behave foolishly. It would be just as well to try to lock up every foolish person. He knew some foolish idiots who would run through any amount of money in a very short time; but if they were to lock up people for anything, who would be safe? People who drink might be inclined to lock up some of the teetotalers.

The CHAIRMAN remarked that he was once locked in a room by a dipsomaniac.

Dr. DRYSDALE thought they should not set the example of locking up too much, and he was quite content with the law of 1879, thinking that the voluntary system in the matter was as much as they could ask for. Another point touched by the essayist was in reference to abstinence from meat. Now, he would not follow any medical man who wanted to seduce him into vegetarianism. It was perfectly clear to him that vegetable food was not so easily digestible as animal. Nor could he agree with the essayist on the enormous importance of any form of theology in curing dipsomania. He could be a teetotaler perfectly well without adhering to any particular theology, and he protested as a medical man in mixing up two subjects, each in its way excellent, but having nothing to do with the other. If they convinced people that drinking was very bad for their health, and that it would ruin and degrade them in society, they would have done a great deal. As medical officer to the Rescue Society, he did not think there was the least necessity to think that women were not amenable to reclamation from drunkenness and other vices. He would again urge that they should not attempt to introduce involuntary locking-up. A large number of people, especially among the poorer classes, commit some slight crime for the purpose of being put into Clerkenwell Gaol, so as to have no drink, at all events for a certain time. That was, of course, perfectly fair; but he hoped they would not appear to sanction any

further penal law on a thing which they had nothing to do with.

Dr. A. CARPENTER considered that the great point the medical profession had to keep before them was that dipsomania was a disease capable of being cured—and to endeavour to work out in the best way possible the principles necessary to effect the cure. As a medical man and a magistrate he had had repeated applications made to him to commit individuals to some place where they would be kept from drink, which they knew to be the cause of their disease; but up to 1879 the law of England did not allow such an asylum to exist. As they were all aware, drinking people were of the most unstable character. It was part of their disease, and what they determined to do one day, they refuse to do on the next; and he thought that the friends and medical advisers of a dipsomaniac should have power to send him not to a prison, but to a place where he would be carefully treated, and where his liberty would be taken away for a certain time. The "Dalrymple Home," which would shortly be ready, would be a home in every sense of the word, where everything that was possible would be done for the purpose of restoring the patients sent to it in health, and in the home there would be a little theological article of belief, namely that alcoholic drink in all its shapes and forms was the very Devil, and that it should be avoided as much as possible. The "Dalrymple Home" would have a great advantage in being able to treat dipsomanics in the early stages of their disease, before it became chronic, and he believed they would soon be able to show many permanent cures. He hoped that the Legislature, after a time, would, where a case is thoroughly proved to be one of real dipsomania, allow the person afflicted to be locked up for a certain time so that a cure might be effected. The medical profession had to show that it was possible to cure these cases. This had not at present been proved to the satisfaction of Parliament; but he believed that in five or six years' time the "Dalrymple Home" would have furnished

all the evidence required on that point. He, therefore, trusted that the members of the profession would support the home, in which the guests would be made as happy and comfortable as the circumstances would permit.

Mr. ZIERENBERG (manager of the St. James's Home) said that this year they were able to show that 69 per cent. of the women who had been in the home for six or twelve months had been reclaimed, as they found by constant correspondence. He quoted some instances of women who had been reclaimed in the home after long periods of intemperate habits; and stated that in five years they had had no illness at the home necessitating the calling in of a medical man, though the inmates numbered from eighty to ninety. He believed that medical treatment alone would never reclaim these women. There must be moral and religious influence, or the cure would not be permanently effected.

Dr. BRANSON thought they were all agreed that the keystone of the whole matter was prevention, and educating the people. He had had some experience in the treatment of inebriates and dipsomanics, and he considered that the best thing to do was to try and reach some good point in the moral nature of the patient, and in connection with the redeeming feature try to work in harmony with the general treatment. He had no faith in medical treatment apart from the moral question, and especially in dealing with women inebriates. He could only wish that there were more medical men and clergymen interested in educating the public in these matters. If there were they could force upon the Legislature the necessity of dealing with the subject; but in the meantime it was the duty of medical men to uphold the principles of temperance, and all that is right, pure and good.

On the motion of Dr. EDMUNDS, seconded by Dr. NORMAN KERR, the debate was then adjourned until Midsummer Day at four o'clock.

The CHAIRMAN said he was quite sure that before they separated they would wish, especially on the part of those who might not be able to attend

the adjourned discussion, to thank Mr. Alford very cordially for his valuable paper.

The proposition was carried with acclamation, and the meeting was then adjourned.

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May 27th, 1881.

Miscellaneous Communications.

ALCOHOL, CHEMICALLY, PHYSIOLOGICALLY, AND MICROSCOPICALLY CONSIDERED.

By SURGEON-GENERAL C. R. FRANCIS, M.B. Lond., M.R.C.P., formerly
*Professor of Medicine in the Medical College, Calcutta.**

I.—CHEMICAL.

IN nature there is no annihilation. The several elements, nearly seventy in number, of which everything animate and inanimate on the earth, in the air, and in water, is made up, unite with each other in varying, yet

definite, proportions to form a multiplicity of compound substances. Their constituents may become disunited and re-arranged; but, as elements, they never die. The conventional “all smoke,” alluded to also by David, in speaking of his days being so consumed, and popularly regarded as synonymous with nothing, may in some instances be a valuable commodity. Thus, *sulphur* combines with *carbon*, in two proportions of the former with one of the latter, to constitute a liquid that, if a small quantity of it be put into an earthenware or iron vessel and placed in the lower part of a chimney on fire, will shortly

* The substance of a lecture on “Alcohol, Chemically, Physiologically, and Microscopically considered;” delivered on the 24th March, 1881, in the Memorial Hall, Farringdon Street, London; being the last of a series of six lectures on Alcohol; instituted by the British Women’s Temperance Association.

resolve itself (in combination with oxygen) into *sulphurous*, and *carbonic acid*, gases which, rising in large volumes of smoke, will rapidly extinguish the blazing soot. *Arsenic*, a highly poisonous element, unites with *hydrogen*—a harmless gas that being ten times lighter than atmospheric air was once in great repute with balloonists—to form *arseniuretted hydrogen*, one of the deadliest vapours possible. This is the compound which, some forty years ago, caused so much sickness, and even death, in certain localities in London. The arsenic with which the candles (and wicks also) were impregnated—the former thereby acquiring a characteristic white lustre—extracted hydrogen from the moisture in the latter, the result of the combination being a blue flame, from which death radiated in all directions. These were called *corpse candles*, as mischievous in their time as the compounds of arsenic with oxygen and copper, known as *Emerald's green* and *Scheele's green*, and which are used for colouring the green papers on our walls in the present day. *Chlorine*, so valuable in bleaching, combines with the same gas (hydrogen) to form *hydrochloric acid*, a fluid essentially identical with the gastric juice in our stomachs, and which physicians prescribe when this is disordered or absent. *Alumina*, represented in nature by the *sapphire*, the *corundum* and the *ruby*, is produced by oxygen combining—each of these stones having its own special proportion of oxygen—with *aluminium*, a light bright metal largely employed in the arts, and sometimes made to resemble gold. The elements, which more particularly interest us to-day in their combinations with each other, are *carbon*, *oxygen*, and *hydrogen*. The first, giving solidity to the substances into the composition of which it enters, as clothing, some kinds of food, plants, trees, &c., and seen in nature in the diamond, graphite, charcoal (all of which are more or less pure carbon), combines with hydrogen, in a certain proportion of each, to form that dread of the miner—*fire damp*; and again, in yet other pro-

portions, to constitute *marsh gas*, a product of the decomposition of dead leaves and known, in certain localities, to benighted travellers as the *Will o' the Wisp*. It combines with hydrogen, oxygen being now added, to develop alcohol. Ether, too, consists of these same elements, the amount of the two first varying with the kind of ether. These combinations of elements, resulting in substances so valuable in the arts and to some extent in medicine, were discovered, in the first instance, by accident. The knowledge, then limited to a small area, soon became more general, and, in the case of alcohol, misapplied. That which, confined to its legitimate use, was a boon to man, thus became his bane.

MANUFACTURE OF ALCOHOL.

The question arises “How is alcohol made?” Simply, by a *ferment* acting upon a saccharine substance, mixed with water, at a certain temperature. If a little sugar and water be put into a saucer placed on a shelf, a piece of paste being added to serve as a ferment, and the temperature be between 40 Fahr. and 140 Fahr., after a time an intestine motion will take place. This is “*vinous fermentation*” which, in reality, is a separation of the elements carbon, oxygen, and hydrogen, of which the sugar and water are composed, and their rearrangement into *carbonic acid*, *alcohol* and *lees*. The carbonic acid, rising to the surface as a deleterious gas, is, if in large quantity, very mischievous, as in brewers' vats and in those where champagne is made on an extensive scale. In this latter case naked men descend, in some parts of Burgundy and South Africa, into the vat to tread out the juice from the fruit of the vine; and the carbonic acid that floats on the surface acts so detrimentally, even threatening suffocation, that relief has to be speedily provided. Relays of naked men are therefore constantly at hand. The alcohol, whether in wine, beer or spirit (for *it* is after all the essence of these fluids giving them their intoxicating character), remains in the centre, whilst the lees,

consisting of various ingredients in which extracts predominate, sink to the bottom. This is the gist of the matter. Any saccharine substance, acted upon in the same way, will be converted into alcohol, &c. In the manufacture of wine grape juice is, or should be, used; but, in that of alcoholic drinks generally, a variety of material is thus utilised. In Mexico a species of *agave*, in India *rice*, and the *flowers* of the *bassia latifolia* (vern. *muhooa*), in Tartary *koumiss* (mare's milk), and in Africa the *plain-tain*, give to the inhabitants their alcoholic beverage. *Dates* are sometimes used in countries where they abound; in others, as in our own, potatoes, and certain grains, the starch of which (by steeping the grains in water) becomes converted into sugar.

I mentioned that a ferment is essential to fermentation; but, although I specified paste—something that, containing nitrogen, was capable of undergoing putrefaction—as necessary, yet, in many instances, this would not be required; as the seeds of a ferment often exist in large quantities in the atmosphere. The vitality of a ferment depends upon the presence of a living organism of low growth—a fungus if you will—the sporules, or seeds, of which may be found floating round about us. The ferment of the brewer is *yeast*, which reproduces itself in the process of brewing; and its vitality is due to the fungus known as *mycoderma cerevisia*. There are several kinds of fermentation, the most familiar examples of which are the “vinous,” or alcoholic; the “acetous,” seen in sour beer and beer vinegar—one great art in brewing is to prevent the one fermentation from running into the other as it is apt to do;—and the “lactic,” as seen in sour milk. Each has its own special ferment. It has lately been announced in the papers that M. Müntz has discovered alcohol in all kinds of water, except pure spring water; and there is reason to believe that it is to be found in many places on the ground. Nor is there anything very wonderful in this. We have seen that alcohol is the result of

a particular arrangement of certain elements, so caused by the operation of a ferment; and, as these elements and ferments are pretty freely distributed in nature, why should they not, sometimes, work together and produce “vinous fermentation”? M. Pasteur has found, in certain ripe fruits, a trace—mark the word—of alcohol, not enough to justify the scoffer at total abstinence in saying, “Why, here you have alcohol in nature;” and in, therefore, asserting that it was meant to be drunk. The discovery is a scientific curiosity—nothing more. If we could see it universally distributed as we see water—rivers of rum, in the existence of which the old lady with the sailorgrandson readily believed, though she would give no credence to the flying fish—then the argument would be worth listening to. But, it is manifestly preposterous, if not wicked, to suppose that a beneficent Creator intended for ordinary use that which is an acknowledged poison, and which sometimes requires the skill of an expert to discover.

KINDS OF ALCOHOL.

I have spoken of alcohol generally, as composed of carbon, oxygen, and hydrogen; but there are several kinds of alcohol, the character of each depending mainly on the amount of carbon it contains. Thus, there is *ethylic* alcohol, the purest of all, and containing—with reference to the others—a minimum of this element. This is the alcohol which is formed in the “vinous fermentation” of the grape; and which exists in the best alcoholic drinks. It is the *spirit of wine* of the Pharmacopœia and is used in the spirit lamp, giving out a strong heat without smoke. If I put a piece of cotton wool into some ethylic alcohol and set fire to it in a watch glass, you will observe that no deposit takes place on the white saucer that I hold inverted over it. Its polished surface remains untarnished: there is nothing beyond a little moisture. The carbon has combined with the oxygen in the alcohol, and, taking more from the air, has been rendered gaseous as carbonic acid; whilst the hydrogen

(in the alcohol) has, with more oxygen from the atmosphere, helped to form water, which has condensed as the moisture on the saucer. This same experiment led the analytical chemists of a hundred years ago to look upon alcohol as a mixture of fire and water. They called it, in fact, "fire water." They did not know the exact composition of alcohol, partly because, using as they did the ethylic variety, there was no deposit of carbon to invite inquiry, and so the existence of this element was not suspected. But now, if I dip another piece of cotton wool into *amylic* alcohol—popularly known as fusel oil, the alcoholic constituent of *potato brandy*—and set fire to it, you will see that the inverted saucer becomes blackened, because this alcohol contains more carbon. Some of it is burnt off, as in the case of the ethylic alcohol, but the excess is deposited. I would ask you to particularly notice this fact, as I shall have to refer to it presently when speaking of the physiological action of alcohol on the human frame. Amylic alcohol is largely used to adulterate the purer kind; and, as it causes *delirium tremens*, or otherwise disorders the system more readily than the purer sort, the drinks containing it should be especially avoided. By merely rubbing some of the suspected liquor on the palm of the hand, and letting it evaporate, the peculiar smell of the fusel oil may be detected. But the skill of an expert will, sometimes, be necessary. Amylic alcohol was contained in the so-called whisky, which Sir Samuel Baker introduced to the notice of one of the kings of Africa, when he (Sir Samuel), was suffering from chronic ague. He first grew the potatoes, and, from them, prepared the whisky. The king, who up to that time knew nothing of such strong liquor, enjoyed it so much that he, too, grew potatoes for the same purpose. There are other kinds of alcohol, as the *butylic*, *methylic*, and *mercaptan*. The first of these is remarkable chiefly for its deadening power upon nerve tissue, and is used, occasionally, on that account for toothache. The second,

known also as *pyroxylic*, or *wood spirit*, exists in the liquid obtained by distillation from certain kinds of wood. As being a cheaper kind this alcohol is much employed in the arts, and, owing to its comparatively greater volatility, it may be inhaled like chloroform, or ether. Being a lighter alcohol, and less injurious in its action on the system, Dr. Richardson speaks of it as the safest of all, and therefore recommends it where alcohol is indicated. But it does not exist in any alcoholic beverage; and, *except medicinally* by a few, is not likely to be much used. *Mercaptan* is more of a scientific curiosity, as *sulphur* takes the place, in its composition, of oxygen. All alcohols have a remarkable affinity for water; and this is one of the reasons of their being so injurious in the body. Even after careful distillation alcohol contains 12 per cent. of water, which can only be removed by distilling it with something that will combine with and, so, separate it, as potassium carbonate (pearl ash), or quick lime.

UNFERMENTED WINE.

And now a word or two about drinks that are not fermented. There are some persons who, unacquainted with the subject, affirm that there can be no such thing. They add, that, when the ingredients required (for vinous fermentation) come together, the intestine motion takes place immediately. But this is not so, always. We are much indebted to Dr. Norman Kerr for his investigations, and published experiments, on this point; and he informs us, thus confirming, too, the observations of others, that fermentation does not occur between 40° Fahr., nor above 140° Fahr. He has known grape juice kept in a cold cellar in Britain over a whole winter without a sign of fermentation; and the same result, he affirms, would have been attained by depositing the unfermented fluid in a very cold well. If pure grape juice, ready prepared for vinous fermentation—this is the *mustum* of the Romans and the *gleukos* of the Greeks—be heated to a temperature many

degrees below the boiling point of water (212° Fahr.), and then be at once poured into a new leathern vessel, called in the East a bottle, there will, if the vessel be forthwith closely and tightly tied, be no fermentation. This very experiment was made by Dr. Norman Kerr in conjunction with an accomplished analytical chemist, Mr. F. A. Clifford; and the bottle, in this case a pigskin, was suspended for two months in an atmosphere laden with yeast germs. The mean temperature (54° Fahr.) was favourable to "vinous fermentation"; but, when the juice was examined at the end of the two months, it was evident that none had taken place; not a trace of alcohol could be detected! To preserve unfermented wine the essentials are a clean bottle and the exclusion of atmospheric air. This fact will throw some light upon our Saviour's saying, "No man putteth new wine into old bottles." The surface of these leathern bottles would afford a favourable nidus for the adhesion of ferments, which would be more likely to abound in those that were old. If unfermented wine were put into such a bottle fermentation would be soon set up, and the expansion of carbonic acid, thus generated, would burst open the old leathern receptacle: in the language of our Lord the bottle would be marred,* whilst the wine was spilled. There are some who believe that fermented wine was referred to; that, a further supply of fermenting material being found in an old bottle, there would be further fermentation and consequent rupture. Alcoholic liquors are sometimes stowed away before the fermenting process is over. In the case, occasionally, of bottled beer it is continued in the stomach, to the manifest disadvantage of that much-tried organ! I confess, however, that I do not hold with this theory, but strongly incline to Dr. Kerr's opinion, that the wine of Cana was unfermented and un-intoxicating. This view is more in harmony, too, with our Saviour's general teaching. "Vinous fermentation" may be prevented by adding to the saccha-

rine mixture certain antiseptics, as *salicylic acid*, which, moreover, can arrest fermentation after it has commenced. *Sulphurous acid* is also largely used by some vine growers, and manufacturers of unfermented wine on the Continent. But, it is frequently urged, "This stuff is not wine; it is nothing better than sugar and water coloured." Be it what it may, the liquid is certainly called wine in many narratives of travel in the East. Wine is a general term somewhat loosely applied. It includes the hundred, or more, wines that are placed on our tables in England and on the Continent—those which contain 7 or 8 per cent. only of alcohol as well as those in which 50 per cent. and upwards is found—as also the substances which, although alcohol has been used in their manufacture, are not, in the conventional sense of the term, wines at all. Amongst these last are *wine of colchicum*, *wine of aloes*, *ipecacuanha wine*, *steel wine*, and so on. And who shall say that it was not *myrtle* or *hyssop* wine—both in those days being much in vogue for certain dyspeptic ailments—that St. Paul recommended to Timothy? So with tea. Tea is not always the infusion of the leaves of the *camellia bohea*, or *camellia viridis*. We have also *senna tea*, *chamomile tea*, *linseed tea*, &c. Why, therefore, should we not have unfermented as well as fermented wine? Doubtless, the *oinos* of the Greeks, and the *vinum* of the Romans, meant originally the latter. Yet, some of the wines in use in those days were evidently unfermented, e.g., *passum*, a sweet wine prepared from grapes that had been dried in the sun; *mustum*, or the fresh juice of the grape; *protopum*, a variety of the same; *mulsum*; *sapa*; * *defrutum* and *carcenum*; all of which were the fruit of the vine, unpressed; mixed with honey; or more or less boiled down. Some wines were made with salt water, as the *Myndian*, *Halicarnassian*, *Rhodian*, and *Coan* wines. These were not intoxicating but digestive;

* Mark ii. 22.

* Dr. Norman Kerr has himself made these wines.

yet they went by the name of *wine*. I quite think that what is required and what chemistry, with its ever-varying discovery for weal or woe, will I doubt not one day find for us, is a palatable, nutritive, inexpensive, cheering, and non-alcoholic drink. *Zoedone* does, to a great extent, supply this want, but it is expensive; and, although it hardly deserves the summary prescription that has been suggested with reference to it, it should not be taken indiscriminately and continuously without first consulting the family doctor; as it contains, amongst other ingredients of a medical nature, a little iron, which does not agree, even in small quantities, with every one. I cannot leave this part of the subject without a word about Communion wine. Bearing in mind that a mere sip of such wine, containing alcohol, has rekindled the extinguished (?) craving of the *quondam* drunkard, is it not a matter for serious consideration with ministers of religion as to whether they should not give the fruit of the vine in all its pristine purity? Frank Wright's unfermented wine is an excellent form in which to provide it; and it, or some other unfermented variety, is used by, I believe, 1,800 Christian congregations in the United Kingdom. *Tent*, as containing a minimum of alcohol, is the least objectionable of intoxicating wines (port should not on any account be offered); but it is often very impure, and, in such cases, consists of the dregs of sherry casks mixed with saccharine matter—usually treacle.

USES OF ALCOHOL.

In the arts alcohol, like ether, is very valuable. It will extract the essence of a substance more readily and thoroughly than water. Our tinctures in the Pharmacopœia are thus made; *e.g.* *tincture of opium* (laudanum); *compound tincture of camphor* (paregoric); *compound tincture of benzoin* (friars' balsam), &c., &c. In the Temperance Hospital the authorities, true to their principle of rigidly excluding alcohol under any circumstances, now employ glycerine in

place of it. The responsibility of its use in disease rests with the medical officer prescribing it. Alcohol is particularly valuable in the manufacture of some of our most precious remedial agents. Thus, if certain proportions of it and nitric acid be mixed together and heated, *nitrite of amyl*, so serviceable in relieving the agonising spasms in *angina pectoris*, will be obtained. If, instead of nitric, we use sulphuric acid, we shall get ether: if chlorine be passed through alcohol *hydrate of chloral* is the result; and, if chloride of lime and alcohol be treated together, the outcome is *chloroform*. Alcohol is of undoubted value in medicine, but, as before observed, was never intended as a beverage.

II.—PHYSIOLOGICAL.

Having thus, cursorily, spoken of alcohol in its chemical aspect, I pass on to refer to its action on matter, inanimate and animate.

One of the chief characteristics of alcohol is its antiseptic quality. By taking to itself the oxygen of the tissues, with which it is brought into contact, it prevents their oxidation and consequent putrefaction; and, thus, preserves them. Hence, its value in connection with mince pies, which some rigid teetotalers regard with suspicion on account of the alcohol used in preparing the mince-meat. But, there really need be no objection, as alcohol evaporates at a much lower temperature than that at which water boils; and, in a well-heated oven, is soon, having done its work, dispelled. So, when brandy is poured over a Christmas pudding and set fire to, the alcohol rapidly burns away.* Alcohol is employed to preserve specimens which, the water being abstracted, become thereby hardened. This is the effect upon the human brain *out of the body*, if it be immersed in alcohol. The action of spirit upon the *living* brain is to soften it, in a way to be explained presently. A popular idea prevails that alcohol

* I am indebted to Dr. Norman Kerr for having thus lucidly satisfied the scruples of one or two of my teetotal friends.

assists digestion: but, so far as helping to break up and dissolve the food intended for conversion into blood, it does nothing of the kind. On the contrary, according to Dr. Henry Munroe's experiments, finely minced beef, which if treated with gastric juice and *water* duly, after a time, undergoes solution, when alcohol is used without water remains, even at the end of several hours, unacted upon. Quite recently, at a wedding breakfast, the bridegroom inadvertently took a lump of something that "lay heavy at his chest." The universal panacea alcohol, in the shape of whisky, was recommended and drunk,—the result being that the lump lay heavier than ever,—and the poor sufferer shortly afterwards died.*

ACTION ON ANIMATE MATTER.

1. *On Plants*.—M. Claude Bernard has shown that growing cress, if exposed to the vapour of ether, will cease growing; but that, if it be removed from its influence, growth will continue. So, Dr. James Ridge has demonstrated a similar result in connection with the vapour of alcohol. Both alcohol and ether deaden the vitality, the sensibility, of the plant,—the same effect, indeed, that is produced on man by alcohol.

2. *On Man*.—The brain, heart, and lungs, are the tripod, on the integrity of which life depends; and alcohol, unless taken in extreme moderation, may, sooner or later, injure them all. The working power of each is ensured by the purity of the blood, which purity is likely to be affected by alcohol. In a healthy man there are from sixteen to twenty pounds of this fluid circulating through the vessels appointed to convey it to all parts of the body; and it completes the circuit once in every two minutes, or thirty

times in an hour, the movement being slower in the more distant vessels (which form a beautiful mesh resembling the skeleton of a leaf after maceration in water) and quicker through those that are larger and nearer the heart.

COMPOSITION OF THE BLOOD.

The blood is composed of various constituents, the chief of which need only be mentioned here. These are the red and white corpuscles, fibrine, albumen, salts, and water.

The Corpuscles. The red corpuscles floating in the centre of the stream (the white take the sides, but, as they are not concerned with our present inquiry, we need do no more than just allude to them) resemble, when examined under the microscope, sovereigns arranged in rows or *rouleaux*. They *seem* to be round cells (with, sometimes, a central nucleus which, however, is an optical delusion); and they contain *iron*, which gives them their red colour. The function of these corpuscles is to absorb, when circulating through the lungs, oxygen from the air, and to convey it to all parts of the body where, carbon being ready to combine with it, carbonic acid is formed—a result that is accompanied by the development of animal heat and physical force. The carbonic acid is now conveyed by the same class of corpuscles back into the lungs, whence it is eliminated from the system. Upon the unimpaired integrity, therefore, of these microscopic bodies depend the necessary heat of the body and the removal from it of much that, if retained, would be injurious. Alcohol (even 1 part in 500 will suffice) disturbs this integrity. Owing to the absorption of their moisture they shrink, adhere together *en masse*, and thus the flow of blood becomes embarrassed and impeded; there is congestion throughout. Oxygen is now no longer absorbed in sufficient quantity; (some of the corpuscles remain intact); less carbon is burnt off, and there is less animal heat, the body consequently feeling colder. You will now understand better the specially deleterious effects of amylic alcohol.

* Doubtless there *are* certain conditions of the stomach, *e.g.*, pain caused by flatulence, which a warming stimulant, as essence of ginger in water, will relieve, quite as effectually too as whisky-and-water, whose use, however, in such a case, cannot be denied. The one has a sting, though, which the other has not.

Not only is the carbon, already in the body, not removed but more is added to it! By the habitually excessive use of alcohol the blood becomes thinner and darker, from imperfect aëration, and retention of carbon; of this last there is sometimes as much as 30 per cent. more than in health, giving to the fluid quite an oily feel. The carbon is deposited as fat, and the alcoholist becomes, often prematurely, obese. Well for him if this be the only result; worse if some of the normal structure of important organs disappears and is *replaced by fat!* Under these circumstances erysipelas is apt to supervene after injuries. Alcohol is not miscible with the blood nor with any of its constituents.

The fibrine, of which there are from 2 to 3 parts in 1,000, speaking popularly holds the blood together. In the alcoholist this function becomes limited; the fibrine, acted upon by the alcohol, loses its normal character and separates. Hæmorrhage is, then, more likely to occur. In healthy persons a cut heals rapidly; the fibrine coagulating, the surfaces of the wound unite by the *first intention*. But in drunkards an open sore, attended with scabbing and draining away of nutritive material, is apt to follow. Blotches may appear on the face. Owing to a combination of causes—the impairment of the red corpuscles, with congestions, imperfect aëration of the blood, retention of carbon, together with the separation of the fibrine—the countenance may assume a mottled appearance and, in some cases, is of so dark a hue, that one is reminded of those unhappy victims of epileptic fits who—taking nitrate of silver in the hope of being freed from the disease—permanently darken the skin without effecting a cure. The drivers of public conveyances sometimes have this condition very prominently developed. Their aspect tells a fearful tale of a probably similar condition within.

Albumen.—There is a substance distributed throughout the body called colloidal, and its representatives in the blood are fibrine (this is its purest

form) and albumen, of which last there is about 70 parts in 1,000. Out of this substance the various structures are formed—arteries, veins, nerves, muscles, and all the several organs, of every shape and size. It is essentially an elastic, semi-fluid material. Alcohol, by abstracting the moisture, destroys the fluidity and elasticity, and thus, secondarily, the structures built up from it.

Salts.—Under the free use of alcohol the salts of the blood may appear in excess in the renal secretion. The existence of this excess is sometimes specially hurtful. Dr. B. W. Richardson believes that the formation of cataract in the eye, and of stone in the bladder, may be promoted thereby.

Water.—Owing to the great affinity of alcohol for water, more or less of the latter is removed, and dryness ensues. The system, deprived of its normal supply, indicates its need by thirst. It may here be mentioned that a dry state of the mouth and fauces does not always imply this condition. It may often be relieved by sucking an acidulated drop.

The Blood-vessels are apt to be weakened by the abuse of alcohol; their elasticity is diminished, and congestion ensues. Chronic inflammation of the inner coat frequently occurs, laying the foundation of further changes, which sometimes end in the vessels becoming rigid and calcareous, or mere bony tubes.

The Brain.—Passing on to a consideration of the effect of alcohol on the (so-called) tripod of life, we begin with the brain. Out of the body, as before mentioned, the brain, if immersed in alcohol, becomes hard. In life, however, an opposite condition is the consequence of excessive alcoholic indulgence: *the brain becomes soft*. The integrity of the fine vessels being impaired, their resiliency and power of resistance are diminished; congestion takes place, and the organ, not receiving its proper supply of blood, is imperfectly nourished. The diseased condition of the arteries just alluded to leads to the deposit, moreover, of morbid products, which are apt to

become cartilaginous, and even bony. This (so-called) atheromatous deposit, and the congestion together, are the ultimate cause of the softening. The cells of the brain-matter degenerate, and fat is often interposed: the interstitial membrane is irritated, inflames, and becomes thickened, thus adding to the embarrassment of the circulation already delayed. After heavy drinking the brain is gorged with blood. If a piece of brain in this state be sliced off the cut surfaces present a vast number of vermilion points. Dr. Richardson once examined such a brain, which had only just been forcibly ejected from the skull of a drunken man killed on the railway; and this was the appearance. The remote consequences of alcoholic indulgence are various. Delirium tremens is one of the most familiar. In this disease the brain itself is congested, and the membranes are irritated. You are aware that in natural sleep the brain is comparatively empty of blood—it is anæmic. In a congested brain there is *insomnia*, or *want of sleep*; and the great object of treatment in delirium tremens, and in other brain disorders where there is a similar condition, is to give that which, by acting on the nervous system, will promote the advent of “tired nature’s sweet restorer.” If the drinker drinks deep enough, he too will sleep; but it will be the drunken sleep of coma. Some persons take a *nightcap*, i.e., a stiff glass of grog before going to bed, in view to procuring early sleep. But too frequently—congestion following—sleep is altogether banished, and the individual passes a restless night. In some cases vertigo (dizziness), in others loss of memory—dementia even—point to the cerebral mischief within. The influence of the brain (it and the spinal cord and nerves are the controlling department, the brain itself being the controller-general) is defective; the mental power is lessened; and speech—that noble characteristic of man who is thus distinguished from the mere beast that has only a speechless voice—becomes confused and unintelligible. *Apoplexy*, *epilepsy*, *paralysis* (local or general), or *insanity*, may

each, or other, supervene sooner or later upon abuse of alcohol.

The *Spinal cord* and nerve tissue of the alcoholicist suffer much in the same way as the brain. In advanced cases there are muscular starts in sleep; the limbs, even in those that are slighter, feel unnaturally heavy and weary after fatigue (I have seen this weariness where there has been no exertion at all); and sudden falls of temperature are keenly felt. The vital energies become affected, and yet the alcoholicist, not recognising his enemy, flies to it as a remedy which, so far from proving one, makes his condition worse; and so, on and on, till the vital energies are seriously impaired; agitation of the limbs ensues; the co-ordinating power is lost; and paralysis closes the poor sufferer’s career. It sometimes happens that the nerve-tissue being unduly pressed upon by the congested blood-vessels gives rise to severe neuralgic pain.

The *Lungs* are very liable to be injured by alcohol. Their fine vessels become readily relaxed by it, and congestion results. This is one of the chief effects, upon these organs, of spirit drinking. Of all parts of the body none are so impressionable as the lungs, none so susceptible of atmospheric changes and sudden falls of temperature. Hence, the fatal congestion which one so often sees in the lungs of drunkards in severe winters. The congestion leads to bronchitis, which, in all confirmed alcoholicists, is more difficult to treat than where the constitution has been uninjured by alcohol. We are indebted to Dr. B. W. Richardson, to whom the profession, as well as the public, already owe so much, for demonstrating the existence of a distinct form of consumption of the lungs which, as being due to alcohol, he calls “*alcoholic phthisis*.” Alcohol likewise acts prejudicially on the elastic spongy connective membranous tissue; as it does upon similar tissue, in fact, in other organs.

The *Heart* readily responds to the stimulus of alcohol: it beats faster and works harder. By-and-by, if the stimulus be continued, the response becomes more feeble, the result of

weakening of the muscular walls and dilatation of the cavities. The beats are not so regular: there is palpitation, and the least exertion tries the ever-willing though much-abused organ. Later on, there is muscular degeneration; fat is interposed between the fibres; or, worse still, these become fatty. Sinking is a constant symptom throughout, which leads the alcoholicist to fly, again and again, to his treacherous auxiliary. In some cases the membrane which envelopes and that which lines the heart are—the latter especially—changed in quality. It thickens, becomes cartilaginous, or even bony. The valves, which, situated at the union of the auricles with the ventricles and at that of the latter with the pulmonary artery and aorta, by opening out like an umbrella at the moment of ventricular contraction and onward propulsion of the blood, prevents regurgitation of the latter, are studded with abnormal growths—little wartlike vegetations—and lose their suppleness. Consequently, they do not fit closely together: the blood—some of it—flows backwards, and congestion ensues, first in organs nearest the heart, then occasionally in those more distant: and, sometimes, dropsy supervenes.

The Stomach.—Two of the surest of the ill effects of alcoholic drinking are impaired digestion and shattered nerves. It is well for the stomach that the alcohol so soon passes out of it. Were it otherwise this organ would succumb more rapidly than it does. Some of the earliest symptoms of alcoholism are nausea—amounting often to vomiting—loathing of food, flatulence, a sense of distension, and prostration. The stomach is weakened and irritated. Congestion—even inflammation sometimes—follows. The skin is now flushed and perspiring, now pale, cold, and clammy. Other organs, especially the liver, are apt to be simultaneously deranged. “Sinking” at the pit of the stomach is a prominent symptom, and, too frequently, a glass of sherry—“a hair of the dog, &c.”—is taken to relieve it: and alcohol becomes, as in the case of sinking from weakened heart, a

permanent but enslaving ally. In some cases the derangement of the stomach is so great that, to relieve the nausea and sinking, a “brandy and soda” is resorted to the first thing in the morning, another being taken a couple of hours later, and a third at noon, when—the stomach having been lashed up into a certain amount of activity—a modicum of breakfast is eaten. Loss of appetite and alcoholism are commonly concomitant.

The Bowels, when intolerant of alcohol, show it by becoming irritated and relaxed, this condition being accompanied usually by purging.

The Liver.—Very soon after the introduction of alcohol into the stomach, it is conveyed direct to the liver, where it causes stagnation of the blood—congestion. This is one of the first, simplest, and most remediable of the effects—so far as the liver is concerned—of drinking. Some persons cannot take alcohol, not even a glass of beer (I mean bottled beer, or the publican’s ale, not the home brewed beverage which is much milder and comparatively harmless) without some derangement of the liver; as evidenced by flatulence, pain between the shoulders, or in the organ itself, disinclination for food, &c. Medical officers serving in India and the tropics see a good deal of this sort of thing. The liver in those countries being preternaturally active and more prone to derangement than in colder regions, the resident should take but little of that which is certain to increase this activity, &c. Too many, however, adopt an opposite course, and the climate is blamed when, in truth, the fault is their own. Remedial measures may be prescribed with more or less temporary benefit, but, unless the practice which led to the development of the symptoms be discontinued, they will return. The most effective remedy is radical and permanent, viz., a sojourn of some weeks in a hydropathic establishment, where the lesson “how to live rationally” is taught—a lesson involving, amongst other things, total abstinence from alcohol. In the severer cases the liver may become enlarged, inflamed, and, finally,

suppurate. That dangerous and much dreaded condition, abscess of the liver, at last overtakes the inveterate tippler. How many such cases have I seen, alas! in India: though I am bound to add that I have seen others where alcohol had never been taken to excess, and where, evidently, the climate alone was responsible. I may here say that nearly all the diseases resulting from alcoholic abuse may of course be due to other causes, though alcohol is, now-a-days, abundantly recognised as a very potential agent in producing them. In the most serious cases of liver disease, resulting from alcohol, the interstitial membrane inflames, thickens, shrinks, and, dragging upon the substance of the organ in a way that gives the latter the hobnailed appearance so characteristic of the "gin-drinker's liver," finally causes imperfect nourishment, and even atrophy of this important gland; which becomes, moreover, so impermeable as to be a barrier to the circulation; and dropsy, in one of its most fatal forms, completes the sequence of morbid events.

The Kidneys of the alcoholist are liable to suffer much in the same way as the liver. The interstitial connective tissue inflames, thickens, shrinks, leading to contraction of the affected organ, and frequently dropsy. The kidneys may become fatty, or waxy (so indeed may the liver), and their use as eliminating organs so impaired that what ought to be, by them, removed from the body, remains circulating with the blood, and does incalculable mischief. Thus urea, one of the chief of the effete products, finds its way into the brain, and causes the fatal sleep of coma. Cholera often ends fatally in consequence of the persistent inaction of the kidneys, and the non-elimination of the urea. The patient dies comatose. Therefore—the secondary action of alcohol being narcotic—brandy, once so freely used in this disease, has been discontinued.

The Interstitial Membranes (so frequently mentioned) which surround and permeate the several organs—none are without these—serve at once

as an interstitial support, and a means of keeping the integral constituents of the organs apart. They are colloidal structures, and serve also as filters to the body. If acted upon by alcohol they lose their moisture, thicken, shrink, and contract upon and condense the organ, which they envelope. Their functions are thus interfered with, as well as those of the condensed organ, which leads, as already stated, to further abnormal changes elsewhere.

Muscles.—Abuse of alcohol may lead to the impairment of the voluntary muscles. Fat becomes deposited amongst and between the muscular fibres, which, therefore, cannot contract properly.

Alcohol in moderation.—It will be urged by many that, whilst the evils of excess in alcohol may be freely admitted, there is a large majority of drinkers who, taking their liquor in moderation as a daily beverage, enjoy excellent health, and live to a good old age: alcohol cannot therefore, it is added, be so bad after all. This majority may be divided into two classes; (a) those who really do not take enough to hurt themselves: * and (b) those who do well in spite of it. It is alleged by competent authority† that from 1 to 1½ ounce of alcohol, represented by 1½ wineglass of brandy,‡ 3¼ of sherry§ or port,§ 7½ of claret or hock,|| and by 1½ pints (three tumblers) of beer,¶ may be taken throughout the twenty-four hours with impunity—in some cases, it may be, with benefit. There is one kind of monkey (the *rhesus innuus*, vern. *bhundur*) upon

* Even this minimum quantity is too much for some. It may, even if there be no more than what is contained in a wineglass of sherry, either cloud the faculties, or cause headache, or otherwise unpleasantly affect the nervous system.

† Parkes. The quantities (maximum) are for a strong healthy man; and, if the percentage of alcohol be greater, these quantities must, of course, be reduced.

‡ Containing 50 per cent. of alcohol.

§ Do. 20 do. do.

|| Do. 10 do. do.

¶ Do. 5 do. do.

whom strychnine acts, as it does upon man, as a poison: and another (the *semnopithecus entellus*, vern. *lungoor*) who eats it with apparent relish! "One man's meat is another man's poison." So with alcohol. What would have no (evident) effect upon one person might put another under the table. Fortunate are they who, either disliking alcoholic drinks, or finding that they disagree, eschew them altogether. Connected with class *b* is another and a very large class, comprising those who *seem* to do well under a fair (or even large) daily allowance of alcohol, but upon whom it will assuredly tell unfavourably sooner or later. Some of these, if placed in circumstances where they are deprived of their accustomed stimulus, rapidly run down, and, if not judiciously treated, succumb.* Amongst such are the burly draymen who seem Herculean in their physique. They drink unceasingly—a glass here and another there—ever ready to be thus remunerated for bringing the periodical cask to the customer's cellar! But, these men are not long lived; and, if suddenly struck down by an accident, they show that of genuine stamina they have but little! So, the victim of "alcoholic phthisis" looks remarkably well. The best part of him is his face. And he reaches the age of forty-five or so before the existence of the fell disease is disclosed. "Seasoned vessels" again, as they are called, live on the brink of a precipice. A larger quantity of alcohol may be taken daily before thirty years of age than after it. The standard of moderation must then, if this has been excessive, be reduced. The system cannot now "throw it off" so well.

Hope for the Inebriate.—It must not be inferred from all that has been said that disease from alcohol, once developed, is necessarily fatal. The

* The case of prisoners not, as a rule, suffering from suddenly enforced abstinence, would seem to contradict this statement. Not so; I have alluded to the *exceptions* to the rule, which holds good generally. Age is an important consideration, moreover.

recuperative power of nature is marvellous, and the natural tendency of disorders in the system is to recovery. The irreclaimable (?) drunkard, who is hopeless about himself, may therefore take courage and be convinced that, unless incurable disease has begun, he may, if he will but give up his mad career, yet enjoy excellent health and lead a useful and happy life.

Why do people drink?—To stimulate, to cheer, to promote geniality. Social gatherings are supposed to become more social under the influence of alcohol. A bargain proceeds more amicably if it be *wetted*. All this is pleasant enough; and, if there were nothing beyond, unobjectionable. On the Continent, in Italy, France, and Spain, for example, men drink wine for good fellowship: but their wines contain, comparatively, a mere modicum of alcohol, and they do not, as a rule, drink to the same excess as ourselves.* Had we in England been content with such wines, which were found by the House of Commons' Committee appointed some thirty years ago to inquire into the subject to contain little more than 17 per cent. of alcohol, and had we known as well as we know now (though too many, alas, are even yet ignorant) the deleterious effects of this poison, and so avoided the too free use of liquors in which it exists to the extent of 50 per cent., the present campaign against drinking would never have been needed. Men, and women too, drink for other than social purposes. They believe in the *nutritive qualities* of alcohol. Nursing mothers take it for this reason; so does the labouring man, for the same, in his beer; similarly, the three birthdays of the year—that of our Saviour, of the year itself, of children—are celebrated in alcohol: and, after dinner, it is given to the little ones, in wine, to do the latter (the children) good. It is taken in moderation for the stomach's sake—St. Paul's advice to Timothy being quoted in support; it is taken, too often in

* Absinthe and spirit-drinking are, however, too fashionable in France.

excess, to keep out the cold, whereas it dispels the heat of the body, leaving the latter more susceptible of cold than before. It is swallowed by the miserable and outcasts of society to deaden their sorrow. Be the object what it may, it is only momentarily attained. Depression too surely ensues, followed, it may be, by intoxication, narcotisation, and even death.

Stages of alcoholic action.—The first stage of alcoholic action is vascular* excitement, rapidly followed by exhaustion (of the vessels): then comes a period of excitement (with corresponding exhaustion) of the spinal cord, and muscular disturbance: then, one of unbalanced reasoning power and of volition: complete collapse of the nervous function closing the fourth stage.

What becomes of the alcohol in the body?—It was formerly supposed that the alcohol passed through the body unchanged, as indicated by what appears in the secretion from the kidneys. But the best and most recent authorities† state that it is only a fractional part which is thus found, the greater portion being converted into other compounds, of which aldehyde, formed by the action of acids on the alcohol, is the chief. It is understood that, when alcohol appears in the renal secretion, it is a sign that the individual has exceeded the prescribed limit. There are many tipplers who say that they prefer *gin*, because it passes off so quickly! Nevertheless, it remains quite long enough to do mischief, if taken in excess. Whatever becomes of the alcohol and whatever shape it may, after a time, assume in the body, it is a poison to be recognised, and dealt with as such.

Alcoholic experience.—The injuriousness of intoxicating drinks, even in so-called moderation, and the benefit of total abstinence, are abundantly proved by past and present experience.

* This is the mischievous stage. Less harm, obviously, is done by the drunk and incapable than by one into whom unusual courage or daring have been infused.

† Anstie and Dupré.

Captain Cook once came in the course of his voyages upon an island where there were several old people; but they, with the younger ones, were (comparatively) hale and hearty. They had never seen alcohol nor anything inebriating. The Maoris first became acquainted with such drinks from us. These facts dispose of the assertion that some form of stimulo-narcotic—being essential to man's welfare—is to be found in every part of the globe. Alcohol is the missionary's greatest obstacle to success. He, the vicegerent of Deity, conveys to the heathen the sublime truths of Christianity, practising its precepts in his daily life; whilst his brother Christian (?), by instructing in the use of "fire-water," and displaying when under its influence qualities of which even the savage would be ashamed, seems to be, not the servant of Christ whose name he bears, but rather, an ambassador from the devil. They who have to use their brains continuously in severe intellectual work avoid alcohol. The three first wranglers of the year at Cambridge are total abstainers. They whose physical powers are to be taxed to the utmost for a prolonged period, know that they are more likely to break down if they indulge in intoxicating beverages: hence these are strictly interdicted in training for any athletic exercises. Divers, swimmers, sportsmen—all eschew alcohol. Voyagers—whether to tropical or arctic regions—find themselves better without it. Soldiers, amongst whom there are now nearly 20,000 total abstainers, maintain their physical energy best on cocoa, coffee, or tea. The Australian cricketers of 1880, who won so many matches, and proved themselves a united foe worthy to meet the steel of England's best Eleven, are teetotalers. Many publicans, licensed victuallers, &c., send their sons to colleges and schools conducted on total abstinence principles. Prisoners—many of them up to the moment of incarceration hard drinkers—so far from suffering from the sudden withdrawal of their accustomed liquor actually improve in health, and come out, in that respect, far better than

when they went in. And, finally, the records of life assurance societies tell us that the number in the total abstainer's section, who are annually expected to die, do not die so regularly as the non-abstainers, thus securing for this portion of these societies a better balance-sheet and a larger dividend.

Hereditary Transmission.—There is one reason above all others why people should have as little to do with alcohol as possible. None can tell when they may acquire the habit of drinking to excess. Truly said an ancient writer: "Ebrii gignunt ebriôs." One drunkard begets another. "The thoughtless inebriate transmits to his helpless issue," writes Dr. Norman Kerr, "defective nerve power, enfeebled will, debilitated morale." Medical practitioners of experience can amply testify to the truth of the sad picture. "As surely as feature, virtue, and vice are transmitted in line, so surely," writes Dr. Richardson, are the evils caused by alcohol. Of all diseases which may be fostered and transmitted by it none are so sure of being thus passed on to succeeding generations as *rheumatism* and *gout*. But worse, perhaps, than all is the inherited love of drink! The dipsomaniac, who would fain shake off his trammels, has a life-long battle to fight. The ægis of total abstinence is his best shield. He can *not* be moderate even if he would.

Summary.—When then we find that the immoderate use of alcohol diminishes our mental powers—that it limits our usefulness in life, and our enjoyment of lawful pleasures; that, so far from giving strength, it takes it away; that it cannot permanently* warm and keep out the cold, but renders one more susceptible of cold than

* The primary effect of alcohol is to slightly raise the temperature of the blood, but subsequently the temperature is lowered to a more than corresponding extent. It should be remembered that, in apoplexy, the heat of the blood rises above 98° (the normal heat), whereas in drunkenness it descends below this point. Opposite modes of treatment are consequently required in the two conditions.

before; that nearly if not quite 200,000 deaths every year may directly or indirectly be traced to it (in this category are included many helpless babes found suffocated under their drunken mothers on the Sabbath morn); that 80 per cent. of our crime, 75 per cent. of our poverty, and $\frac{2}{3}$ of our insanity, are due to alcohol, at an annual cost to the nation of £150,000,000; that it has brought dishonour upon the hitherto upright and unstained; that it has caused the wreck of chastity, and led to many a suicide; that, under its influence, disgraceful utterances, bitterly repented of, but which can never be effaced from the memory, have marred the happiness of many a home; that promises have been given whose fulfilment—honour forbidding their recall—has resulted in the life-long misery of loving but incompatible natures; do we not abundantly recognise the truth of the saying, that alcohol is the mother of mischief, the tempest of the tongue, the whirlwind of the brain? And shall we not therefore heartily endorse the action of the ex-president of the United States, who, when invited at a festive gathering to fill his glass with wine, turned it, instead, upside down, and eloquently shook his head? All honour to those ladies who, banding themselves together as the "British Women's Temperance Association," are doing so much to disseminate a knowledge of the true character of alcoholic drinks.

Encouraging.—Intemperance is happily no longer fashionable among the educated and upper classes; and it is an encouraging evidence of progress in the temperance cause that so many in high places are ready to publicly advocate the advantages, personal and social, of total abstinence. From the senate-house, the pulpit, and the bench; from the printing-office, on the quarterdeck, in barracks and in camp; in lecture-hall, drawing-room, and medical conclave, the same advocacy is enforced. The seed sown by the writings, 150 years ago, of Dr. Cheyne and others, followed in later times by those of the author of "Bacchus," of Father Mathew, of George Cruikshank (whose pen was eclipsed by his pencil), and of

various earnest lecturers and speakers, —social reformers, amongst whom we are proud to reckon in our day such men as Dr. B. W. Richardson and Dr. Norman Kerr,—this seed is evidently bearing fruit. As a set-off against the 600,000 drunkards of the United Kingdom there are an equal number of children who belong to Bands of Hope, the nuclei, under Providence, of future temperance families; there are nearly thirty total abstainers in the House of Commons, where a majority of the representatives of the people have recently decided that, in view to its reduction, the liquor trade should be regulated by the people themselves; 22* out of 240 of our chief town councillors have come forward, invited by the National Temperance League, personally, or by letter, boldly to proclaim, in the metropolis of England, their adhesion to the total abstinence cause; and to testify that official entertainments conducted on total abstinence principles, where the fruit of the vine appears not in the “wine cup” and the “flowing bowl” but in the cluster, may be given without diminishing their personal popularity, or preventing their re-election; and last,

* Ten teetotal Mayors, the Lord Mayor of York in the chair, delivered addresses on the advantages of total abstinence, at Exeter Hall, on the 7th of April, 1881. Twenty-seven are total abstainers.

though far from least, nearly 300 medical practitioners by whose advice, as to the consumption, or otherwise, of alcoholic drinks, the public are largely influenced, have combined to renounce their use; and in connection with whose action a temperance hospital has been established in London, where, as already observed, not only are these drinks not given, but where alcohol is not even employed in making tinctures—glycerine being substituted for the purpose. All these are surely encouraging symptoms of progress; and may we not confidently hope that the day is approaching when, with the advancement of knowledge on these subjects, the result in great part, it may fairly be assumed, of temperance bringing up in our schools, the Englishman—who at the present time is, alas, but too frequently associated in the minds of foreigners with beef, beer, and brandy, and who, on the native stage in India, is represented with a bottle in his hand, inebriated by its contents—will stand forth before the world never otherwise than in his right mind, and an example of national sobriety, as he is now of national freedom.

At the close of the lecture some morbid preparations, illustrating the action of alcohol on the several organs, were exhibited under the microscope.

BARMING LUNATIC ASYLUM.

REPORT BY THE MEDICAL SUPERINTENDENT.

At the Kent General Sessions held at Maidstone on Tuesday, April 17th, the following important report by Dr. F. Pritchard Davies, the Superintendent of the County Asylum at Barming Heath, was presented, and ordered to be printed:—

“MR. CHAIRMAN AND GENTLEMEN,—I have the honour to submit

the report for the year 1880, together with the usual statistical tables.

“There were resident, December 31st, 1879, 1,193 patients, and on December 31st, 1880, 1,253, or an increase of 60 in the total number of patients left in the asylum at the end of the year. This is not to be accounted for by the extra number of

pauper cases admitted, but by the increased number of private patients, the diminished death-rate, and the smaller number of patients discharged. Indeed, if the private patients are deducted it will be found that only two more pauper patients were admitted in 1880 than in 1879.

"The number discharged always greatly depends upon the nature of the disease in those admitted. During the past year the new cases have been of an exceptionally unfavourable character. Amongst them were an unusual preponderance of general paralytics and epileptics, as also more than an average number of cases that were from the first regarded as incurable in consequence of the advanced stage of their disease. This, I think, fully accounts for the diminution in the percentage of recoveries.

"The causes of death have been verified in every instance by *post mortem* examination. We have been free from epidemic diseases, and there has been no suicide.

"This year, as usual, some patients have been sent in who were not insane. Their numbers exactly coincided with those obtained in 1874, viz., four—two men and two women.

"Inquests have been held in three instances, and the following verdicts were returned:—1, valvular disease of the heart; 2, fatty degeneration of heart; 3, epilepsy and atrophy of brain.

"One male attendant has been prosecuted for striking a patient. He pleaded guilty and was fined.

"The following serious accidents have occurred:—1. A male patient sustained a fracture of the elbow in consequence of being hurled against the wall by a fellow-patient, who at the time was suffering from epileptic mania. 2 and 3. Two patients, one male and one female, were seized with epilepsy while leaning against the fire-guard, and fell backwards over it into the fire. They were promptly rescued, but were severely injured. 4. A female patient tripped over a mat in her ward, and fell and fractured her leg. 5. Another female patient was cleaning windows in the yard, when

the ladder she was on slipped. She fell and sustained a compound fracture of the ankle. I deemed it necessary ultimately to amputate the foot. All these patients have made good recoveries. To obviate the possibility of a recurrence of patients falling into the fire in fits, the fireguards throughout the asylum are being altered so as to completely enclose the stoves.

"There has been no instance of mechanical restraint during the year, and only twelve cases of seclusion have occurred, the time varying from ten minutes to eleven hours.

"In my last two annual reports, I mentioned certain changes we had made in our beer supply. As this subject has attracted considerable attention throughout the country I deem it right to enter rather fully into the particulars, although in so doing I must necessarily repeat much of what I have already said. It was in March, 1878, that I first advised you to diminish the quantity of beer issued to patients and attendants. These changes worked so well that in November, 1879, I again brought the subject under your notice, and recommended that the issue of beer as an article of ordinary diet should be discontinued. This you sanctioned and it came into operation on December 1st, 1879.

"Regarding our dietary as sufficient, and being convinced that the actual nourishment of the beer was too small to merit consideration, I did not advise any other substitute than water, for the discontinued beer. By most carefully weighing every patient once a month, and keeping accurate records of the results so obtained, I am satisfied of the soundness of my opinion, and do not think any unprejudiced observer could question the good results which have, in this asylum, followed the total abolition of beer as an article of diet. The wards are much quieter than they have ever been before. The patients are cheerful without being noisy, and they certainly work better. Their general health has been good, and there is a marked diminution in our death-rate, to which, however, I do not attribute such im-

portance, as it may be explained in other ways. However, for the improved condition of the patients generally, the diminution of violence, destructiveness, and noise, I think the abolition of the issue of beer is mainly to be credited.

"It was thought that by discontinuing beer it would be necessary to very largely increase the issue of wines and spirits. I did not share in this belief, and the result is as I anticipated. The attendants and servants of course regarded beer as part of their wages; and as my only object in withdrawing it from them was to diminish as much as possible the chances of patients being able to obtain it, you deemed it right to give them monetary compensation, and this was done upon the following scale which represents as nearly as possible what to us was the value of the beer they received before the first reduction was made:—Male attendants, £4 per annum; female attendants, £3 per annum; and laundry attendants, £3 per annum.

"I am thoroughly satisfied with the result of this substitution of money for beer to attendants and servants, and have good reasons for believing that they themselves are grateful for the change. Many have become total abstainers, and, for the first time in their lives, contracted habits of thrift.

"Although the abolition of beer as an article of ordinary diet has been the means of saving a large sum of money, I wish again to state that it was not with this object that I advised the step you have sanctioned. From careful observation of the effects of alcoholic stimulants upon the patients under my care, as well as from a knowledge of the cause of large numbers of them being here, I became convinced that it was not advisable to continue to supply exciting beverages to them, which, I felt sure, had a tendency to prolong their malady, and, by keeping up a taste for intoxicants in those inclined to over-indulgence, in them, directly conduce to a speedy relapse after they were discharged.

"The enclosure and cultivation of odd corners of land about the asylum has been gone on with during the

year, and much has been done in the way of planting trees and shrubs in the airing grounds and elsewhere.

"The water main lately laid around the new building for use in case of fire has been connected with our steam pumping engines, so that we are now enabled to obtain any requisite pressure at a few moments' notice in case of emergency. A fire brigade has also been organised amongst the artisans, attendants, and patients. A system of heating the single rooms in the old building by means of hot-water pipes has been commenced, and, as far as completed at present, works in a most satisfactory manner.

"The detached hospital for infectious diseases and the wards set apart for suicidal and epileptic cases have been electrically connected with the senior assistant medical officer's quarters. A great deal of work has been done by attendants and patients in painting and decorating the dining-hall, wards, &c., while a handsome pavilion and many fixed seats have been erected in the cricket field.

"I regret that nothing has yet been done to provide the much-needed infirmary, suicidal, and epileptic wards. The arrangements we have made for the treatment of our sick patients and those requiring continuous supervision I only regard as temporary. The wards we have taken for these purposes ought to be occupied as ordinary day rooms, and their appropriation compels us to unduly crowd other parts of the asylum. Some time ago I called your attention to certain alterations I recommended in the old building, and which, if carried out, would not only provide the whole of the accommodation we so urgently require, but at the same time remove parts which are structurally very defective, and merit condemnation upon many grounds. I believe my recommendations have met with your approval, and that it is a mere question of finance which prevents the work being commenced. I most earnestly hope this difficulty will soon be removed, as I feel I cannot do my full duty by the patients until the older portions of the asylum are

radically altered, and made more in accordance with the standard of modern requirements for the treatment of the insane.

"Two Commissioners in Lunacy visited the asylum in October, and their report has been presented to you.

"The vacancies on the medical

staff mentioned in my last report have been filled by the appointment of Arthur Law Wade, M.D., as senior assistant, and David Johnstone Jones, M.D., as junior assistant. Both these gentlemen are now in residence, and afford me most valuable assistance.—I remain, &c.,

"F. PRITCHARD DAVIES."

Year.	Proportion per cent. of recoveries to admissions, excluding transfers from other asylums.			Proportion per cent. of deaths to average No. daily resident.			Proportion per cent. of deaths to total No. under treatment.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
1879	43.0	50.0	47.0	13.9	9.7	11.5	10.5	7.8	9
1880	49.0	43.0	43.0	11.8	8.1	9.6	9.1	6.4	7.5

Year.	Class of Patients.	In Asylum, Jan. 1.	Admitted during the year.	Died.	Discharged.	Transf. from private to pauper.	Transf. from pauper to private.	Remaining Dec. 31.	Total.
1879	{ Pauper	1,203	308	137	193	—	—	1,179	} 1,193
	{ Private	6	12	1	5	1	3	14	
1880	{ Pauper	1,193	310	113	146	—	—	1,230	} 1,253
	{ Private	14	23	3	11	—	—	23	

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TOBACCO-AND-ALCOHOL AMBLYOPIA.

DR. WEBSTER read a paper upon this subject before the Medical Society of the County of New York (*New York Medical Record* December 11), in which he furnishes abstracts of twenty cases that have come under his own notice. After giving the details of the ophthalmoscopic appearances, and describing the treatment by hypodermic injection of strychnia at some length, he says:—"If I were to formulate my conclusions drawn from these cases and from other sources of information, they would be about as follows—1. Amblyopia from poisoning by alcohol alone, or by alcohol and tobacco com-

bined (in eighteen of the twenty cases both tobacco and alcohol were used in excess, in one tobacco was used excessively and alcohol moderately, and in one the amblyopia seemed to be wholly due to tobacco), is not uncommon. 2. Amblyopia from poisoning by tobacco alone *does occur*, but, in this country, somewhat rarely. 3. Cases of amblyopia from abuse of alcohol and tobacco will usually improve (perhaps to a limited extent) on simple abstinence from the poisons causing the disease. 4. They will improve much more rapidly under treatment by hypodermic injections of strychnia, the

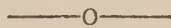
drug having a specific stimulating influence upon the nervous portion of the visual apparatus."

At the discussion on the paper, Dr. St. John Roosa, while admitting that amblyopia is produced by the combined action of alcohol and tobacco, was quite sceptical as to tobacco possessing the power of producing it alone. He doubted the accuracy of Mr. Jonathan Hutchinson's statistics on this point, and pointed to the rarity of the occurrence of amaurosis in Turkey, and to the fact that Dr. Ely could not find this amblyopia among the constant workers on tobacco. Even cases of amblyopia from the combined action of alcohol and tobacco were not of frequent occurrence; and the incipient atrophy of the optic nerves, described by Dr. Webster, is not often met with. In some cases, indeed, ophthalmoscopic examinations taught nothing, and yet the patients improved promptly on abstaining from tobacco and alcohol, sometimes with and sometimes without the use of strychnia. Dr. Knapp believed that tobacco-and-alcohol amaurosis was by no means rare, for it constituted a considerable percentage of his private practice, and was met with to a certain extent in hospitals. At the beginning of these cases ophthalmoscopic examination did not reveal any changes adequate to account for the impairment of vision; but when the case had advanced, a proportionate change was found in the optic disc: and still later the arteries and veins might become so reduced, both in size and number, that the disc assumed the highest degree of atrophy. In the cases in which no adequate changes in the disc can be discovered, characteristic functional disturbance was observable; for while in the periphery vision is normal, in the central portions of the visual field there is achromatopsia. In such cases the prognosis is favourable, rapid improvement ensuing under general remedies only. Dr. Pomeroy had seen good results from the use of strychnia, although these were not produced as rapidly as in Dr. Webster's cases; but there were many difficulties in de-

termining whether or not the strychnia had really cured the patient. In his opinion tobacco had but little influence in the production of the amblyopia, while alcohol certainly exerted a marked influence. Abstaining from alcohol alone would cause improvement, while abstaining from tobacco alone had but little effect. A point to be borne in mind was the "visual intelligence," of the patient, upon which the amount of his vision largely depended when tested for the first time. A stupid patient might read $\frac{2}{3}\%$, while an artist with the same actual condition of the eyes would probably read $\frac{2}{1}\%$. Again, the cultivation of the "visual intelligence" was another factor; for a constant improvement took place by simply testing the patient—that is, he could see better with the same eye at the close than at the beginning of the exercise. Another factor also was the improvement that might result from the lapse of time. Dr. C. R. Agnew, after pointing out how little statistics from ocular examinations in Turkey could be relied upon as compared with those of New York, ("where probably there was a greater aggregation of careful observers than could be found in any single city of the world,") went on to say that he agreed with those who thought that amaurosis from tobacco alone, without the possible occurrence of syphilis and the possible abuse of alcohol, was comparatively rare. He had himself met with a few cases in which tobacco was the sole cause of the amblyopia. He believed the relationship between the two poisons, tobacco and alcohol, was such that they were in some persons indissolubly united, and that we should seldom succeed in breaking them from the one habit unless they were broken from the other. We should insist upon the patients totally and at once abstaining from both; and after waiting for a week or ten days, use the strychnia if necessary. In cases in which he had waited for this time, and found little or no improvement taking place, he had found that the vision became immediately doubled in strength by an injection of

strychnia. With respect to statistics on this subject for the purpose of determining the comparative frequency of the occurrence of the disease, Dr. Agnew observed that large classes of diseases must be excluded. Thus, diseases in children, and blindness from cataract, detachment of the retina, conjunctival affections, &c., would have to be eliminated. If the cases were selected in which the dioptric apparatus was not affected, but those in which the lesions were in the perceptive apparatus, he thought it would be found that the number of cases was relatively large, although it might be absolutely small. The evidence of observers who had not subjected the

vision to the test of its acuity, and had not given positive statements with reference to the amount of vision the patient had, and the effect of remedies in changing that amount, should be excluded. Dr. Webster stated that the *rapid* improvement of vision under the influence of strychnia had occurred in the cases of amblyopia from alcohol and tobacco; but he had also seen vision considerably improved by its use in atrophy of the optic nerve from other causes. Yet, after a time, vision had failed in these latter cases, despite of the strychnia, while in the amblyopic cases the rapid improvement was permanent.—*Medical Times and Gazette*, March 26, 1881.



NOTE ON ABSENCE OF BEER IN AN ASYLUM DIETARY.

By J. A. CAMPBELL, M.D., F.R.S.E., *Medical Superintendent, Garlands Asylum, Carlisle.*

THE subject of the use of beer in the dietaries of public institutions for patents, attendants, nurses, and servants, has for the last few years much exercised the minds of both the lay rulers of such institutions and of the medical heads, and a diversity of opinion still exists. The use of stimulants in sickness is also much discussed, and affords considerable scope for variety of opinion and practice.

The asylum which I at present superintend was at one time, I believe, the only English asylum in which beer did not form an article of ordinary diet for patients, attendants, or resident medical officers, and as the asylum has now been in existence since January 1862, its general results may be fairly taken for purposes of comparison. The Committee of Visitors, when the asylum was opened, were of opinion that in many respects it was highly advisable that the diet-scale, and also the hours for meals, should accord to a certain extent with what was in force in the district from which the patients were drawn, and

hitherto they, or their successors in office, have seen no reason to alter the opinion which was wisely come to at a period when, in the belief of many, it was wrong. Beer does not form a usual part of the diet of the working-class in these two counties, and their hours for meals would by many be thought barbarously early.

I have for several years had so many inquiries into the matter of diet, and the absence of beer in it, and as to the effects of this want of beer in reducing the health, in evilly influencing recovery, &c.—some of these inquiries have been so full and particular as to percentages of recoveries and deaths, the cost of stimulants as medicinal treatment, and the cost of medicines—that I have drawn up the following tables, which show the main points that can be of any value to other institutions; while I avoid all comparison which might be invidious, and which, if required, may easily be made by those who wish to enter on the subject.

As during the first year of the existence of this asylum the reception of

chronic patients much influenced the results, and also as there was no report printed, I simply give the results contained in the ten yearly reports drawn up and issued by my predecessor, Dr. Clouston, and those from my own reports for the last eight years.

I give in a tabular form the percentage of recoveries on admission, the percentage of deaths on the average numbers resident, the cost of stimulants (used medicinally) per head, and also the cost for medicine during these two periods.

Years.	Percentage of Recoveries on Admissions.			Percentage of Deaths on Average Numbers Resident.			Wines, Spirits, and Porter.	Surgery and Dispensary.	
	Males.	Females	Total.	Males.	Females	Total.			
From Jan. 1st to Dec. 3rd.									
1st Period of 10 Years.	1863	30·6	18 4	25·0	4·3	6 4	5·2	s. d. 16th 0 1 12	s. d. 16th 0 0 7
	1864	30·7	38·0	34·0	12·0	12·0	12·0	0 1 14	0 0 13
	1865	30·0	44·0	38·6	3·8	9·4	6·2	0 1 14	0 0 13
	1866	15·0	38·0	25·7	5·2	2 8	4·0	0 1 13	0 0 10
	1867	27·1	34·2	29·9	12 8	6 9	10·3	0 2 10	0 1 1
	1868	36·7	38 3	37·5	7·4	7·7	7·6	0 2 12	0 1 8
	1869	41·2	37·5	39·1	8·9	6·3	7·7	0 1 14	0 1 2
	1870	47 9	44·0	46·2	5 0	6 5	5·7	0 2 7	0 1 0
	1871	43 8	56·0	48·5	11·0	8·6	9·9	0 2 9	0 1 9
	1872	51·1	48·0	49·5	8·0	5 8	7·0	0 2 10	0 1 3

The percentage of recoveries for this period averaged 39; the percentage of deaths on the average numbers resident was 7·6. During this period one pint of milk was given to the men and three-quarters of a pint to the women for six days of the week at dinner. I had the amount of milk

reduced to half-a-pint for each sex, and only gave it three days in the week at dinner, as I thought it did not suit the dinners with fat meat or warm gravy, but the dietary has remained unchanged as regards the amount of butchers' meat.

Years.	Percentage of Recoveries on Admissions.			Percentage of Deaths on Average Numbers Resident.			Wines, Spirits, and Porter.	Surgery and Dispensary.	
From Jan. 1st to Dec. 31st.	Males.	Females	Total.	Males.	Females	Total.			
2nd Period of 8 Yrs <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	1873	37·3	48 3	43·2	5·3	6 2	5 7	s. d. 16th 0 2 5	s. d. 16th 0 1 4
	1874	40·3	54·1	46 6	11·5	7 7	9 8	0 3 7	0 1 9
	1875	38 1	43·1	40·3	6·9	6·2	6 6	0 2 12	0 1 0
	1876	43·3	45·0	44·2	15·5	5·9	10·9	0 1 15	0 1 4
	1877	49·0	51·0	50·0	7·7	4 2	6·0	0 1 14	0 1 2
	1878	59·5	59 6	59·5	7·2	8·6	7 8	0 1 6	0 0 14
	1879	35·4	61·0	51·7	8·2	5·5	7 1	0 1 4	0 1 0
	1880	30·4	50·0	39·5	9·8	9·3	9·5	0 1 3	0 1 3

The yearly recovery rate during the eight years averages 47 per cent.; the average percentage of deaths on the numbers resident is 7·9. As the general health has been good, and as in the vast majority of cases the patients

admitted have been found to gain in weight after admission (careful weight records being kept), I think the 7·3 per cent. of rise in mortality may easily have been caused by the action of the Government grant of 4s. per week, for

lately we certainly have had more old cases sent in than used to be sent some years ago.

I believe I am correct in saying that in most if not all of the Scottish public asylums no other beverage than cold water is given at dinner. I am

at present considering the question of doing away with the small quantity of milk which is given here on three days in the week. The attendants and officials have seemed to keep in good and robust health with water as their beverage.—*Lancet*, May 14.

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STIMULANTS IN WORKHOUSES AND IN OUTDOOR RELIEF.

THERE is scarcely any of the taxes which our present social government renders necessary so much complained of as the ever-increasing burthen of the poor-rates; and this complaint arises not only from their actual pressure, but from the rather general idea that they are not all disbursed towards the real necessities of the poor, but frequently for unnecessary or even injurious purposes. In few respects is this point now more strongly urged than in regard to the use of stimulants, not only for the treatment of the sick in the union hospitals, but for paupers not in hospital, or even for the recipients of outdoor relief. It is not our intention to discuss here the use of stimulants in the treatment of disease, which is, in our opinion, a question best left to the medical officers of the several hospitals; we will merely observe that, in our experience, there are certain types of disease, for the treatment of which alcohol, in carefully-regulated quantities, is essential, and which in fact cannot be effectually combated without that remedial agent. In these cases, however, we very much doubt whether the ordinary conventional doses of whisky, brandy, port wine, &c., are the most accurate way of exhibiting it, for these fluids present quantities of alcohol of ever-varying strengths, flavoured by the essential oils, and besides are apt, by constant use, to create in patients an appetite for stimulants which may lead to their ultimate moral and physical ruin. We have for a long time past acted frequently on the advice of Dr. B. W. Richardson, and prescribed definite

doses of the proof spirit of the *Pharmacopœia* (sp. gr. 920) suitably flavoured, and found it, if not quite so agreeable to the palate, accurate in its effects, and taken distinctly as a medicine, just like the bark, ammonia, or quinine, which were used in the same case. We find occasionally instances of gastric irritation where the sedative action of old brandy, or of champagne, is desirable, and where the spirit of wine does not answer; but we repeat that this whole question, where the actual treatment of the sick is concerned, is a matter not for the decision of Local Government Boards, or even of poor-law guardians, but for the conscience of the medical profession, and as such we bring it under the notice of our readers, merely remarking that indirect harm has often been done by the presenting of ordinary stimulants, and that it is the duty of the physician to minimise this risk.

We would, however, principally call attention to the use, or rather the abuse, of stimulants in the case of workhouse inmates not in hospital; and still more of persons in their own homes, in the receipt of outdoor relief, and against this system we emphatically raise our voice. Taking the detailed statistics of the unions of the three kingdoms, we find that there is no sort of uniformity either in the amount of stimulants employed, or in their effects upon the death-rates of the inmates. These statistics have been carefully collated and compared by Dr. Norman Kerr, in a very interesting and luminous report, which shows

that in some workhouses the quantities of alcohol employed per head are simply scandalous, and considerably in excess of those used by many of the ratepayers supporting them, while in other similar establishments the amount is infinitesimal, being evidently exhibited only in cases of illness or emergency. Further, this report discloses the startling fact that whatever may be the factors of the higher or lower death-rates of these establishments, the use or non-use of alcohol is not one of them, for some of these poor-law shrines of Bacchus display most favourably, and others equally disastrous death-rates; while the non-alcoholic institutions appear to be similarly situated.

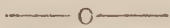
As the health of the ordinary pauper is evidently not affected by the use or non-use of alcohol, the question becomes simply one of discipline and of propriety; and, in these important points of view, we consider alcohol highly objectionable. The public have little idea how it is abused in some workhouses where a great deal of nursing, sweeping, and other domestic labour is done by able-bodied male or female paupers. In some of these places it is usual to reward such labours by allowances of whisky or porter, which are sometimes consumed by the recipient and sometimes sold; and, as a result, discipline is gravely interfered with, and police or even magisterial interference becomes necessary. The hardest political economist will not deny that the workhouse inmate should receive a

diet which will keep his body healthy and well nourished; but why give him alcohol? Likewise the aged and infirm may reasonably look for eggs, beef-tea, and a few such comforts; but for them also, unless in actual acute illness, alcohol is unnecessary.

The distribution of strong drink among the recipients of out-door relief is simply monstrous, and is open to the greatest abuses. Not long ago in this city, an active guardian visited a pauper shortly after the relieving officer had distributed the weekly allowance of food and stimulants. He found the pauper standing on the stairs, comparatively drunk, and with the nearly-consumed whisky-bottle in hand. For strategic reasons the guardian retired, and the pauper was, for the rest of the week, as far as the union was concerned, in a state of compulsory sobriety.

We have spoken at some length upon a growing evil, which appears to us to be a very serious one. Love of drink is, in our humbler classes, our great national besetting sin, and we earnestly appeal to the medical profession in charge of hospitals and workhouses to combat a system objectionable on account of its waste and extravagance, but still more by reason of the social and moral degradation to which it is slowly, but surely leading.—*Medical Press and Circular.*

[We hope to give Dr. Norman Kerr's valuable report in full in the next issue of the *Medical Temperance Journal.*]



THE DALRYMPLE HOME FOR THE TREATMENT OF INEBRIATES.

THE Lord Mayor presided, on Tuesday, 17th May, over a meeting at the Mansion House, held for the purpose of inaugurating, "on a popular basis and self-supporting principle, a Model Home, licensed under the Act of 1870," and to appoint a committee of management. The attendance was numerous and influential.

THE LORD MAYOR, in opening the proceedings, expressed the pleasure it gave him to place the Mansion House at the service of the promoters of the meeting. He regarded this movement as a most valuable one. He looked upon it as one of pure benevolence. He believed that the proposed homes, if successfully carried out, would be

the means of reclaiming a great many persons who would remain unattended to as long as such establishments were in existence.

Mr. S. S. ALFORD, F.R.C.S., honorary secretary, read the names of many noblemen and gentlemen who sympathised with the object of the meeting, but were unable to be present.

Dr. ALFRED CARPENTER, J.P., chairman of the committee, read the following report:—"The cause of the habitual drunkard, so energetically advocated by the late Dr. Donald Dalrymple, M.P. for Bath, has for some years past been taken up by the British Medical and Social Science Associations. By their joint action, 'The Society for promoting Legislation for the Control and Cure of Habitual Drunkards' was formed in 1876. This society prepared a bill, based upon Dr. Dalrymple's bill of 1872, which was introduced into the House of Commons by Dr. Cameron, M.P. for Glasgow, and into the House of Lords by the Earl of Shaftesbury; a modification of which, leaving it only a permissive measure, became the Habitual Drunkards Act of 1879. During the autumn of 1879, the hon. secretary of the society visited America to ascertain how the inebriate homes were managed in that country. He communicated the result of his observations in a paper read before the Social Science Association on 2nd February, 1880, when a resolution was agreed to supporting the principle to be advocated at this meeting. A sub-committee was appointed at a conference of the above societies to promote the establishment of a model inebriate home, to be called the Dalrymple Home for Inebriates. An institution for the working and lower middle classes, when once started, by sufficient but small payments, it is felt sure might be made self-supporting; especially as the managing committee would be strictly honorary, and have no pecuniary interest in the detention of patients. To do this, however, a fund must be raised to meet the preliminary expenses of adapting and furnishing a house, and to guarantee the expenses for the first two

years. This fund now amounts to about £1,800, which includes £540 promised by a gentleman interested in the question, to defray the rent for a couple of years of a suitable building which has been offered for the Home. We now look to the public for further contributions, which will justify the Committee in at once opening this Model Inebriate Home. Inebriety is a diseased condition, from which those afflicted cannot, unaided, extricate themselves, although generally ready to submit to any necessary restraint to enable them to do so. The Act of 1879 gives power to utilise this desire on the part of the inebriate, and we are now indebted to the Lord Mayor for this opportunity of organising an institution for carrying out this important work, which may be a model for others to imitate, and thus prevent the Habitual Drunkards Act of 1876 becoming a dead letter, and at the same time prove the necessity for further legislation in the same direction."

LORD SHAFTESBURY moved—"That it is desirable to establish a model home for the treatment of inebriates under the Habitual Drunkards Act of 1879, to be called the Dalrymple Home for Inebriates, and that for this purpose a committee of management, having no pecuniary interest in the institution, be now appointed." The noble earl attached much value to the movement in furtherance of which the meeting had been called. He considered that the experiment of a model home ought to be made. He had no doubt that if properly managed the proposed model home would prove successful, and would result in a great benefit to the immediate and to coming generations.

Dr. CAMERON, M.P., seconded the motion, which was supported by Canon DUCKWORTH, and agreed to unanimously.

Dr. FARQUHARSON, M.P., moved—"That the following gentlemen be, and they are hereby appointed, the committee of management, with power to add to their number:—"S. S. Alford, F.R.C.S.; C. M. Burton, Esq.; C. Cameron, M.D., M.P.; A. Carpenter,

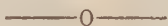
M.D., J.P.; Harry Chubb, Esq.; Canon Duckworth; W. T. Elliott, Esq.; C. Frewer, Esq.; W. S. Gard, Esq.; C. A. Govett, Esq.; Henry Harben, Esq.; Rev. J. W. Horsley, M.A.; James Harvey, Esq.; Norman S. Kerr, M.D.; F. G. P. Neison, Esq.; E. Hart Vinen, M.D.

In seconding the resolution the Rev. NEWMAN HALL alluded to the well-known case of his father, the author of "The Sinner's Friend." Dr. NORMAN KERR also spoke in support of the motion, which was unanimously adopted.

Mr. BOMPAS, Q.C., moved—"That to enable the institution to receive inmates at a low charge the preliminary expenses of adapting and furnishing a house be defrayed by voluntary contributions, and that a guarantee fund be opened to cover the first two years' expenses, if required."

The Rev. J. W. HORSLEY seconded the resolution, which was passed unanimously.

A vote of thanks to the Lord Mayor, moved by Dr. CAMERON, M.P., and seconded by Dr. CARPENTER, concluded the proceedings.



DR. EDIS ON ALCOHOL FOR NURSING MOTHERS.

IN a letter to Mrs. G. S. Reaney, on the use of alcoholic liquors by nursing mothers, Dr. A. W. Edis, of Wimple Street, says:—

"I have often thought that if mothers were only fully aware of the enormous amount of misery and suffering produced by the imprudent use of alcohol, whether taken in the form of beer, wine, or spirits, during the time they are nursing their offspring, they would have considerable scruples as to the indulgence of such a habit. Many a child born of healthy parents, with every prospect of attaining adolescence, has had its little life cut short, its constitution deteriorated, or the seeds of much future suffering and premature decay sown in its system by the pernicious custom of its mother resorting to the use of stimulants with a view to increase, or to keep up, the supply of that upon which alone the child is nourished.

"Women who were little given to alcohol at other times become for the nonce determined tipplers; this being perhaps, of all other times, that when alcohol is calculated to do most harm and least good. Apart from all consideration of the risk of encouraging the habit of chronic tipping in the mother, the influence upon the child is most injurious.

"Many a case of convulsions, marasmus, so-called consumption of the bowels, diarrhoea, flatulence, colic, vomiting, and countless other disorders among infants, is due simply and solely to the popular fallacy that the nursing mother cannot properly fulfil her duties unless she resorts to the aid of stimulants.

"I have had frequent and numerous opportunities of testing practically the truth of these statements. When mothers have relied on drinking milk in place of beer, and have studiously avoided the use of alcohol in any form, their children have been strong and healthy, suffering little or seldom from any stomach derangement, and running the gauntlet of the usual disorders of childhood without causing undue anxiety to their parents, or being more than temporarily inconvenienced by the course of the malady.

"Not so in the case of mothers who depend largely upon stimulants: the children are frequently puny, excitable, and always ailing. They succumb readily to attacks of bronchitis, diarrhoea, and other similar ailments, and even when they survive the period of childhood, are often subject to various forms of dyspepsia that unfit them for the actual warfare of existence and render their lives miserable.

"In cases where the mother's milk is inadequate to supply the wants of the child, it is a far wiser plan to give cow's milk (diluted with one-third water and slightly sweetened) by means of the bottle to make up the deficiency, than for the mother to attempt to force the secretion of milk by resorting to stimulants.

"It is a popular fallacy that it is not a wise plan to mix the milks. This has no foundation in fact. Children thrive and do well where the bottle is alternated with the breast, provided no thick or starchy food be

given. In those cases where the mother's milk is deficient in quantity or defective in quality, much may be done to improve its condition by the mother taking a more liberal diet, of which cow's milk forms an important element. This will be far more likely to prove successful than by resorting to stimulants—such as stout, port wine, or even spirits, which more often tend to produce a feverish state of the system, and thus defeat the very object we have in view by diminishing the secretion of milk."



Notes and Extracts.



FOOD OR DRUG?—We are glad to see that the *Standard* has admitted to its columns letters which call attention to the nature of some of the dietetic drinks which are just now much in vogue in teetotal circles. It is so manifestly unadvisable to make an habitual use of articles which should be used only when wanted, and under medical advice, that it is only necessary to allude to the fact that many persons nowadays are drinking as table drinks what in reality are medicines.

COST OF HOSPITAL PATIENTS.—The *Daily News* of 13th June published a letter from Mr. Charles Hawkins, F.R.C.S., giving details of the cost of hospital patients during the last fifty years at St. George's Hospital. In that institution in the year 1830, 1,572 in-patients were treated at a cost of £10,874, or £6 18s. 4d. each patient. In the year 1880, 3,543 patients cost £24,819, or £6 17 3d. per patient. In these calculations the out-patients are not taken into account. Although each patient costs now 1s. 1d. less than in 1830, there have been great alterations in the different items of expenditure. In 1830 each patient cost for bread and flour 10s. 7d.; in 1880, 4s. 1d. In 1830 each patient

cost in drugs 16s. 5d.; in 1880 7s. 11d. In 1830 each patient cost in wine and spirits 10d.; in 1880, 5s. 11d., although the price of wine in 1830 was double that in 1880. Porter and ale cost in 1830, 5s. 5d., in 1880, 3s. 1d. Milk in 1830 cost 6s. 2d. each patient; in 1880, 5s. 11d., and a much larger amount of milk is given now than formerly.

LONDON TEMPERANCE HOSPITAL.—The annual public meeting of the hospital was held on Monday, May 23, under the presidency of Mr. E. Stafford Howard, M.P., who addressed the meeting, and was followed by Mr. Daniel Grant, M.P.; Rev. Arthur Hall; Mr. Arthur Pease, M.P.; Dr. James Edmunds; Dr. R. J. Lee; Dr. J. J. Ridge; Mr. B. Whitworth, M.P.; Mr. J. H. Raper; Mr. Robert Sawyer, J. P.; Mr. Samuel Bowly, Mr. Thomas Cash, and Rev. Dawson Burns. The annual report stated that the in-patients for the official year numbered 143, and the out-patients, 1,125, of whom 231 had attended the new building in Hampstead Road, which was opened in March. Taking the whole in-patient cases treated in Gower Street from October 6th, 1873, to February 14th, 1881, when the hospital was temporarily closed to admit of removal, the total cases were



952: cured, 533; relieved, 378; died, 41. The Building Fund had reached £25,665, and there was still a debt of about £500.

ABSTINENCE AND LONGEVITY.—The United Kingdom Temperance and General Provident Institution continues to illustrate the advantages of abstinence as an aid to health and longevity. The annual report for 1880 shows that in the General Section, during the five years 1876-80 the number of expected claims was 1,485, for sums amounting to £311,326, while the actual claims were 1,480, for £322,644. In the Temperance Section during the same period of five years, the expected claims were 933, for £193,748, and the actual claims 651, for £126,142, showing a saving of 282 lives in five years, and £67,606 in money. Of the amounts paid as premiums on whole-life policies during the last thirty years, the proportions returned as bonuses were as follows:

	Temp. Section. per cent.	Gen. Section. per cent.
1851-5	35 to 75	23 to 50
1856-60	35 to 86	24 to 52
1861-5	23 to 56	17 to 42
1866-70	34 to 84	20 to 49
1871-75	35 to 114	20 to 64
1876-80	41 to 135	26 to 83

The moral of these significant figures is obvious. All who wish to enjoy good health and long life should abstain from intoxicating liquors.

A "COMBE" LECTURER ON ALCOHOL.—In a lecture on the 7th June, delivered before a large audience in the Upper Hall of the Training College, Einburgh, Dr. Wilson dealt with the constituent elements of food, in reference to their comparative value as means of nutrition. As to alcohol, the lecturer remarked that much of its action on the body was yet a sealed book. This much had been ascertained, that alcohol was positively injurious to the young and growing body. The healthy adult had no necessity for it; but medical men had to consider alcohol from this point of view, that human life was not regulated by a biological rule of three. There were differences of constitution, and alcohol

might in some cases be useful as a digestive aid. He did not say that in all cases that held good, but he was very far from taking up the position that there was no good in alcohol and no use in wine. He quite sympathised with the temperance agitation as regarded too many of the drinking customs of this country, which had neither physiology nor common sense on their side.

A NEW EXHILARATING SUBSTANCE.

—Dr. Luton, of Rheims, calls attention in a French medical paper to the exhilarating properties of the tincture of ergot of rye when associated with phosphate of soda. The circumstances of this discovery were as follows:—A woman of sixty-two, at the infirmary of the *maison de retraite*, in Rheims, was receiving tincture of ergot of rye for disease in the knee. Fearing an unfavourable turn, the doctor thought to strengthen the action of that medicament with phosphate of soda, and accordingly combined a little of the two substances in a quarter of a glass of sweetened water. The patient, about three-quarters of an hour after taking this, surprised the inmates by bursting into loud laughter, without obvious reasons, and this continued for more than an hour with brief intervals. The laughter seemed to be associated with merry ideas, and to indicate a kind of intoxication. For some time after it died down the woman was in great spirits and good humour. Dr. Luton had not witnessed the scene, but, the consequences to the patient being good, he administered the substance again, and a third time, observing the same effect. The experiments were further repeated on seven or eight women and girls with like results. In the case of men, the action of the substance is less marked; it appears only in colouring of the face, giddiness, and slight headache. The effects in question have probably a common origin, it is thought, with those from eating rye-bread when, in rainy years, the cereal contains as much as 5 per cent. of ergot. A sort of intoxication is produced, which the consumers by no means despise.—*Times*.

